PURCHASING

UNIVERSITY
OF MICHIGAN
JUL 15 1952
ENGINEERING
LIBRARY

JULY, 1952



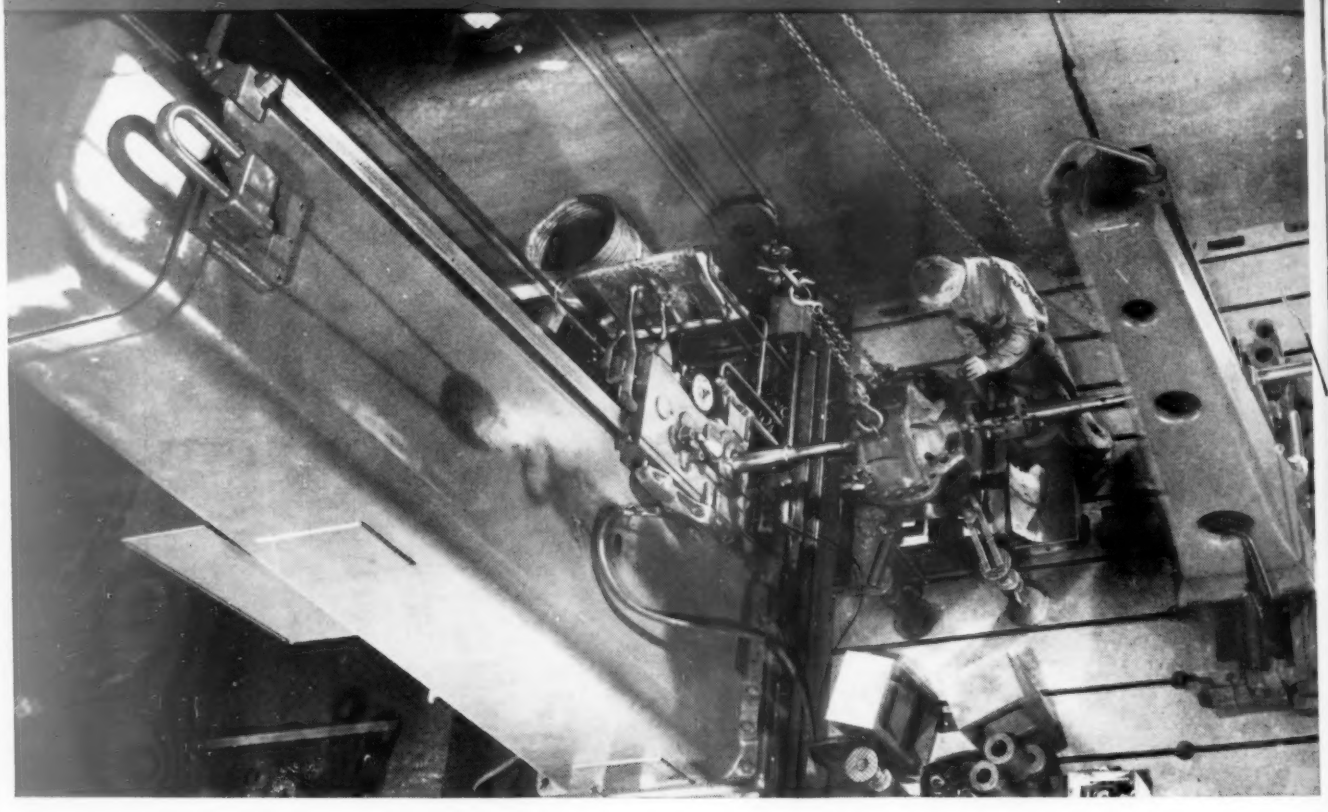
N.A.P.A. CONVENTION REPORT ISSUE

Cover photo, V. deP. Goubeau..see page 71

TABLE OF CONTENTS .....page 5

A CONOVER-MAST PUBLICATION · 50 CENTS

You can { PRODUCE MORE REDUCE COSTS



Use Texaco Lubricants and Texaco Lubrication Engineering Service to help keep your machinery and equipment running at its best . . . with less downtime, less maintenance expense.

Actual records show important savings made and long established preference for Texaco throughout industry. Just two examples out of hundreds—

A manufacturer* in Texas writes: "Texaco has helped us keep output up and costs down *for 37 years.*"

A Chicago plant* saved 147 tool regrinds a month *on just one machine,* by changing to a Texaco Cutting Oil.

In your plant—wherever located or whatever you make—greater production and lower unit costs are bound to follow your use of Texaco Lubricants and Texaco Lubrication Engineering Service—available in all 48 States.

Just call the nearest of the more than 2,000 Texaco Distributing Plants, or write The Texas Company, 135 East 42nd Street, New York 17, N. Y.

**Name on request*

TEXACO Lubricants, Fuels and Lubrication Engineering Service

Faithfully yours

50 *for Fifty Years*

ENGINEERING LIBRARY
H F
5001
P986

PURCHASING

The National Magazine of Industrial Purchasing

VOL. 33, No. 1 JULY, 1952

Choosing the Course 65

Christensen Heads N.A.P.A. 69

N.A.P.A. Executive Committee 70

Convention Program Chairman 71

The Economic Situation—Today and Tomorrow ..... *Dr. E. G. Nourse* 72

Unratified Cartels ..... *J. L. Collyer* 74

Get Acquainted with Your Lawyer ..... *C. S. Maddock* 74

Picture Story of the N.A.P.A. Convention 75

Keeping Pace with Purchasing Progress ..... *C. F. Ogden* 91

Status of the CMP Metals 95
- Steel Industry Builds for the Future ..... *H. G. Batcheller*
- No Real Shortage of Copper ..... *Whipple Jacobs*
- Broadening Markets for Aluminum ..... *I. W. Wilson*

Caveat Emptor! ..... *H. T. Austern* 99

Better Buying Job Is Theme of N.A.E.B. Conference ... *A. N. Wecksler* 103

Where We Stand
Commodity and Business Trends 107

Convention Poll of Purchasing Opinion
Outlook for Supply, Demand, and Price 109

Essential Purchasing Records and Forms ..... *W. H. Herbert* 115

Purchasing Reports to Management ..... *E. H. Eisenhardt* 120

Some Substitutes Work: Some Don't ..... *J. B. Rork* 124

Forms Control and Printing Know-How Make for Substantial Savings *H. McDonald* 182

We Must Know What We Are Buying ..... *M. T. Tracht* 186

MONTHLY FEATURES

Purchasing Previews 13

Late Trade Bulletins and Catalogs 19

F. O. B. 28

Highlights 67

New Products — Ideas 126

Office Eqiupment and Supplies 179

Among the Associations 202

Personalities in the News 246

Buyer's & Seller's Mart 316

Letters to the Editor 326

Index of Advertisers 328

STUART F. HEINRITZ ..... *Editor*

B. P. MAST ..... *Chairman of the Board*
HARVEY CONOVER ..... *President and Treasurer*
A. M. MORSE, JR. *Vice President and Publisher*
A. H. DIX ..... *Vice President, Research*
GILBERT B. FERRIS ..... *Secretary*
RAY RICHARDS ..... *Assistant Publisher*

EDITORIAL STAFF

GEORGE E. HENRY ..... *Associate Editor*
PAUL V. FARRELL ..... *Associate Editor*
A. N. WECKSLER ..... *Washington Editor*
L. E. MCMAHON ..... *Production Manager*
A. M. GRADY ..... *Production Assistant*
E. C. ARINK ..... *Art Director*
DAVID BURKE ..... *Associate Art Director*

ADVERTISING REPRESENTATIVES

ALEX G. GRAAM ..... *New York*
RAY RICHARDS ..... *New York*
C. R. KINGSLEY ..... *New York*
WAYNE W. GEYER ..... *Chicago*
H. L. PELOTT ..... *Chicago*
KENNETH W. MCKINLEY ..... *Cleveland*
FORREST C. PEARSON ..... *Los Angeles*
EDWARD M. BUCK ..... *Atlanta & Dallas*

EDITORIAL AND EXECUTIVE OFFICES

205 East 42nd Street, New York 17, N. Y.

BRANCH OFFICES

737 NORTH MICHIGAN AVENUE ..... *Chicago 11, Ill.*
435 LEADER BUILDING ..... *Cleveland 14, Ohio*
5478 WILSHIRE BLVD. ..... *Los Angeles 36, Cal.*
5 IVY STREET BLDG. ..... *Atlanta 3, Ga.*
IRWIN-KEASLER BLDG. ..... *Dallas 1, Texas*
NATIONAL PRESS BUILDING ..... *Washington, D. C.*

Published monthly by Peeaye, Inc.
Subsidiary of
CONOVER-MAST PUBLICATIONS, INC.
Printed at Orange, Conn.

CONOVER-MAST PUBLICATIONS
PURCHASING
MILL & FACTORY
AVIATION AGE
CONSTRUCTION EQUIPMENT
LIQUOR STORE AND DISPENSER
CONOVER-MAST PURCHASING DIRECTORY
CONOVER-MAST BOOK DIVISION

PURCHASING is an independent journal, not the official organ of any association. Established 1915 as "The Purchasing Agent". Consolidated with "The Executive Purchaser".

Contents are indexed monthly and annually by the Engineering Index Service.

Subscription rates: United States, U. S. Possessions, and Canada: $4 per year; elsewhere, $6 per year. Single copies, 50¢.

Printed in U.S.A., by The Wilson H. Lee Co., Orange, Connecticut



Dependability, Quality, Service—these are the qualifications of a trustworthy candidate.

And these are the qualifications that you look for in your supplier of basic chemicals. For over half a century, Columbia-Southern has maintained a dependable history in quality and service in alkalies and related chemicals. Its production of Caustic Soda is of consistently high purity and shipments are made promptly to you from strategically located plants.

Elect Columbia-Southern as your dependable supplier of Caustic Soda.

COLUMBIA-SOUTHERN CHEMICAL CORPORATION

SUBSIDIARY OF PITTSBURGH PLATE GLASS COMPANY

EXECUTIVE OFFICES: Fifth Avenue at Bellefield, Pittsburgh 13, Pennsylvania
DISTRICT OFFICES: Boston, Charlotte, Chicago, Cincinnati, Cleveland, Dallas, Houston, Minneapolis, New Orleans, New York, Philadelphia, Pittsburgh, St. Louis, San Francisco

Soda Ash • Liquid Chlorine • Sodium Bicarbonate • Calcium Chloride • Modified Sodas • Pittchlor • Caustic Potash • Chlorinated Benzenes • Rubber Pigments (Hi-Sil, Silene EF, Calcene TM) • Muriatic Acid • Perchlorethylene



PURCHASING PREVIEWS

A WASHINGTON REPORT FOR PURCHASING AGENTS

July 1, 1952

NEED FOR CONTROLS FADING FAST

It is becoming increasingly difficult, during the current period of plentiful supply, to justify the burdensome system of controls over materials and components.

Basically, what has happened is that the large-scale expansions of power, materials and processing facilities—sufficient to sustain a major war—are beginning to come into production, while military output is dragging behind.

In addition, there have been numerous refinements in military production, and substitutions of more plentiful materials for uses where previously more scarce metals were specified.

MILITARY RESEARCH NEGLECTED

Reasons for lagging military production are many. One fundamental reason is that in the period from the end of World War II until outbreak of the war in Korea, the whole field of military research was neglected. This meant that all branches of the military fell behind on new design, improvement of existing weapons, and development of new weapons.

This error was corrected when it became apparent that along with neglect of current production of military items, our most glaring deficiency from the military point of view was the weakness in research and new development.

Out of the large sums which were appropriated when the Congress became sufficiently aroused to the peril from enemy aggression, substantial amounts were earmarked for research and development.

Fact is, however, that this has been a development only of the last two years, and research is not a spigot which can be turned on and off with instantaneous results.

The military wants to take full advantage of the research findings as they come available—all of which explains their reluctance to freeze designs and call for a buildup of weapons inventory.

HOW TO DECONTROL MATERIALS?

While this is a rational explanation of the military approach, it does not solve the materials control dilemma.

Obviously, if a major war were to break out, the whole basket of controls which was devised for the mobilization program, plus a series of even more stringent measures, would be imposed. There is no suggestion from any quarter that a full-scale war could be fought in complete reliance on expanded production facilities or large stocks of weapons and supplies in inventory.

On the other hand, it is equally apparent that a stringent control system cannot be maintained over materials and components in the absence of large military demands for weapons and materials.

Question is at what point should materials controls be abolished—whether at the first appearance of "uncashed CMP tickets"; whether at the point where premium priced steel producers find it difficult to find customers, or whether at the point where the control system breaks down because it is ridiculed out of existence due to the sheer and undenied plentitude of materials.

SHORTAGES HAVE BEEN SOMEWHAT ARTIFICIAL

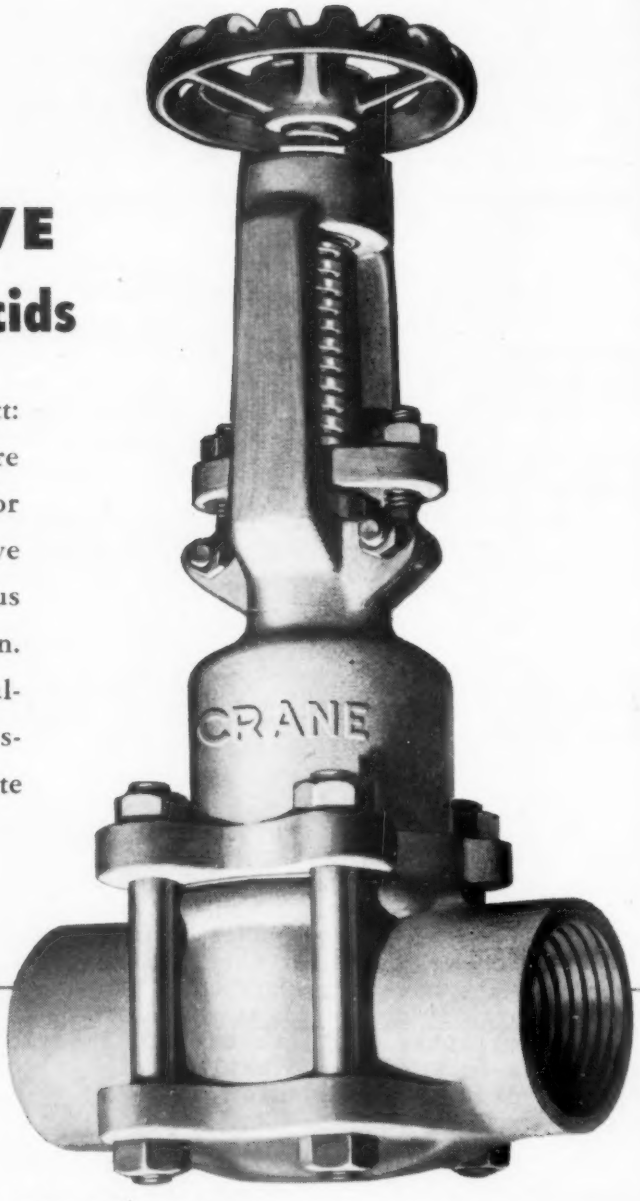
There is always the problem of artificially created shortages, and in many ways the shortages of the past year and a half have been artificial.

The large tonnages of steel which went into plant expansion, railroad, oil industry, etc., could be justified more on the theory of stimulating an expanded economy than on the specific needs of meeting a military threat.

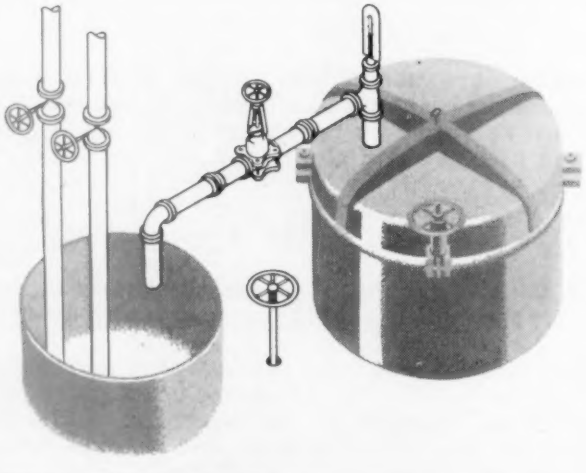
The justification offered was that by expanding our industrial potential, we were in fact creating a dual economy which would make it possible to sustain a large-scale war economy, without seriously blunting our high civilian standard of living.

This CRANE VALVE tamed troublesome acids

This case demonstrates an old fact: Valve costs in handling any fluid are related directly to valve suitability for the service. Here, a highly corrosive acid process played havoc with various valves until tamed with a Crane design. Proper selection plus dependable quality made this valve performance possible. You get both in the complete Crane line.



Read these Facts of the Case!



Where Installed: In a yarn dye works, in piping to a package dyeing machine. *Fluids handled:* Various acid dye solutions at temperatures from 50 to 210 degrees F.

Trouble Encountered: Previously tried valves and cocks couldn't stand the combined effects of frequent operation, throttling, and the severely corrosive acids. They leaked badly; wouldn't operate. They needed constant repair, lasting 1 to 2 months at best.

Solution and Result: Replacement made with Crane 18-8 Mo Stainless Steel Plug Gate Valve. After more than 3 years' service, customer reports: No leakage trouble . . . no sign of corrosion . . . always easy to operate . . . no valve maintenance expense.

More CRANE VALVES *are used than any other make*

CRANE CO. General Offices: 836 S. Michigan Ave., Chicago 5 • Branches and Wholesalers Serving All Industrial Areas

VALVES • FITTINGS • PIPE • PLUMBING • HEATING

New centers of industry were created based on new areas of materials supply—new centers of population were built to sustain the huge atomic energy units.

Much of the expansion has little economic justification based on current markets. Those who seek to justify such projects maintain that the nation "will grow into them".

MORE ALUMINUM CAPACITY SOUGHT

In the midst of the controversy on justification of plant expansion, there is now a strong effort on the part of Government mobilization officials to justify additional aluminum production capacity.

Arguments used to support the contention that additional aluminum capacity is needed are that while 80% of our World War II aluminum production went into production of aircraft, and all non-essential uses were eliminated, the emphasis on airborne equipment for war uses will require even larger amounts of aluminum in a war of the future.

The present division of aluminum among military uses shows approximately 55% of the tonnage for the military goes into aircraft, and the remainder goes into vehicles, ammunition, guided missiles and a number of other items of military supply which previously did not use aluminum.

Another argument advanced in favor of further increase in production capacity is the huge amount of electrical power required in output of aluminum. The production of 1,500,000 tons of virgin aluminum a year (supply which will be available when the present expansion program is fulfilled) will consume 30 billion kilowatt hours per year— one of the greatest single loads on our electrical power production.

Assuming that any enemy will seek to destroy as much of our generating capacity as possible in the event of a war, the supporters of further aluminum production capacity maintain that by stockpiling aluminum, the nation can stockpile electrical energy—and that this can be accomplished in no other practical way.

CONTROVERSY OVER COPPER SUBSTITUTIONS

Copper industry spokesmen have become increasingly critical over the broad suggestions that aluminum is almost a universal substitute for copper.

One approach of Government officials toward substitution of aluminum for what have been traditional copper and brass uses is that in civilian usage, where the copper is not recoverable as scrap and where aluminum can be substituted, such substitution be encouraged.

Example is the traditional use of brass ferrules on pencils. While the amount of brass used per pencil is negligible, the aggregate tonnage is large, and Government officials point out that such ferrules are not recovered as scrap.

In such and similar cases, the Government is seeking to swing its influence toward use of aluminum as a permanent substitute on the premise that the bottleneck on aluminum supply is plant capacity, and that copper supply is limited by the availability of raw materials.

CONTROLS ARE LIKELY TO REMAIN THROUGH 1952

Obviously, the justification for a continued materials control system is tied directly into the policy decisions on further plant expansion, and on the military decisions as to whether now is the time for mass production of weapons.

Based on the considerations which are currently apparent, the continuation of a rigid control system such as CMP is not even remotely justified.

However, the plan is to continue the control mechanisms certainly through the third quarter, and to seek to hold them in force during the fourth quarter—possibly into next year.

No quick decision is likely—which means that the controls will remain, with the administrators seeking to accommodate the control program to whatever pressures arise. If the pressures are those of developing surpluses, the administrators will seek to ease these pressures by passing out as much of the surpluses as they can.

If the pressures develop due to a new emergency, then the military will be forced to step up their production schedule, and the shortages will become real.



Your Federated salesman sells non-ferrous metals, and makes available to you practical and technical service that you cannot get elsewhere.

The Federated salesman is the man whose job it is to speak for you *at the source of supply*. He is close to production, to research, to field metallurgical experts . . . and to *you*. His job is to satisfy you . . . with the metal or the data you need to do your job better.

When you want technical data on babbitts, solders, non-ferrous casting metals, anodes for plating and cathodic protection, lead and zinc products, or any other non-ferrous metal, see your Federated salesman. He is your representative at non-ferrous metals headquarters.

Federated Metals Division

Federated first in the non-ferrous field FMD

AMERICAN SMELTING AND REFINING COMPANY • 120 BROADWAY, NEW YORK 5, N.Y.

Modernize

YOUR CATALOG AND BULLETIN FILES

Bring Your Source Information Up-to-Date on New and Improved Equipment, Products and Materials. This is the first of—FIVE Pages Listing the Latest Trade Literature! Check All Five — 19, 21, 22, 24 and 180! A special listing of catalogs and bulletins on office equipment and supplies will be found on page 180. Additional information about New Products described on pages 126 to 176, use the coupon on page 126.

Industrial Wheels, Casters

1. THERE'S hardly a plant that does not have need for industrial wheels and casters. Therefore P.A.'s will want to add to their catalog file new catalog recently released by Aerol Company, Inc. which gives detailed information in regard to its line of aluminum industrial wheels and casters. The catalog includes seven types of wheels and two caster rig lines. Aerol is a nation-wide organization with regional warehouses and branches and factory distributors strategically located in every industrial trading area of the United States and Canada. The company guarantees its products to be free of defects in material and workmanship for a period of one year.

Semi-Stock Sprockets

2. CULLMAN Semi-Stock converts special made-to-order sprockets into "off-the-shelf" stock items at lower cost in less delivery time. By welding one or two hubs to a Semi-Stock Type A sprocket it can be converted into a Type B or Type C sprocket. Various pitches and number of teeth may be combined with different hubs, in a multitude of combinations to supply sprockets with bore sizes according to individual needs. Plates and hubs for Semi-Stock combinations are carried in stock. These Semi-Stock sprockets and roller chain are described in new catalog issued by Cullman Wheel Co.

Crane Cab Coolers And Conditioners

3. CLEAN, cool, pure air in a crane cab safeguards the health and increases the efficiency of the operator, promoting safety all along the line. A new bulletin covers equipment for dust and dirt removal, fume and odor removal, winter heating and summer cooling of crane cabs. Included are complete specifications for the various models and suggestions on where and how to use them. Dravo Corp.

Smooth, Flickerless Light Dimming

4. LIGHT dimming is a necessary operation in many phases of industrial and commercial activity. The Superior Electric Company says its Powerstat dimming equipment offers features not found elsewhere —smooth, flickerless control, economical operation, easy installation and maintenance. The whole story on this non-interlocking light dimming equipment is given in a new bulletin—D851N. An easy-to-read selector chart provides specific information on each of the available types.

Controllable Capacity Pumps

5. CONTROLLABLE Capacity pumps, 11 to 100 lbs. are described in data sheet 65A which gives information on applications, features, design and operation, on these "Power Savr" pumps. The sheet includes sectional and dimension drawings, ratings, and diagrammatic layout of the Type "A" automatic hydraulic stroke-control system for boiler feeding, oil burner supply, and similar applications. Pumps are plunger type employing a mechanism which controls length of plunger stroke and thus controls delivery without requiring a change in speed of pump motor, turbine or other prime mover. The Aldrich Pump Co.

(Please turn to page 21)

READER SERVICE COUPON JULY 1952

MAIL TO:
PURCHASING—Reader Service Dept.
205 East 42 Street
New York 17, New York

Circle the numbers of the trade literature items you want.

1	2	3	4	5	6	7	8	9	10	11	12	13
14	15	16	17	18	19	20	21	22	23	24	25	26
27	28	29	30	31	32	33	34	35	36	37	38	39
40												

Name..... Title.....
Company.....
Street Address .....
City..... Zone..... State.....

Specify SQUARE D Motor Starters for 3 Important Reasons





Easy to Wire!

Plenty of wiring space.
Handy solderless terminals.

Easy to Get At!

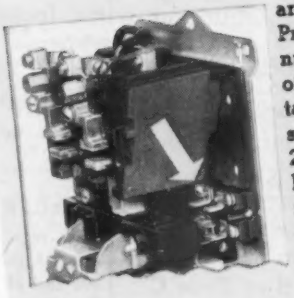
Coils, contacts or overload relays can be changed in no time at all—without disturbing external connections.

Easy to Live With!

Straight line guided motion minimizes wear; large silver alloy contacts insure trouble-free electrical performance.



"Off-the-Shelf" Parts Kits make normal maintenance easier than ever. Each kit contains parts necessary to replace all load contacts and finger springs. An illustrated service bulletin is enclosed to provide quick parts identification and complete installation instructions.



ELECTRICAL INTERLOCKS are available in kit form. Practically any necessary number or arrangement of extra interlock contacts can be added to any standard starter. Sizes 2 and 3 starters will soon have new front-of-panel mounting interlocks for easier installation. *(See cutaway at left)*

Write for Bulletin 8536.
Square D Company, 4041 N. Richards Street, Milwaukee 12, Wisconsin.

ASK YOUR ELECTRICAL DISTRIBUTOR FOR SQUARE D PRODUCTS

SQUARE D COMPANY

(*Continued from page* 19)

Adhesives, Coatings, Sealers Aircraft Manufacture

6. ADHESIVES, coatings and sealers used in aircraft manufacture and maintenance are the subject of 14-page booklet which contains 30 photos and illustrations, and provides design and production data on 13 major products such as strippable coatings to protect metal surfaces during fabrication, and integral wing tank sealers for closing seam-gaps and other crevices in fuel-storage spaces. It also describes adhesives for fuel cell repair, high temperature jobs, honeycomb sandwich construction and other special purposes; and general-duty adhesives, coatings and sealers. Minnesota Mining & Mfg. Co.

Low Pressure Laminate Products

7. NEW 12-page, two-color booklet describes facilities and products of the Winner Manufacturing Co., Inc., makers of low-pressure laminate products. Interesting products illustrated include typewriter case, housing, corrosion resistant containers, signs, parts for electrical equipment, chairs, plastic boats, etc. Title of the booklet is "Winner Makes All".

Wire Rope Assemblies Industrial Standards

8. MACWHYTE Safe-Lock Wire Rope Assemblies, Industrial Standards, Catalog 5201, illustrates and gives ordering information for the following assemblies; Pin eye, oval eye, small ring eye, large ring eye, threaded stud, threaded sleeve, standard sleeve, connector sleeve, standard hook, safety hook, standard fork, and "other terminals". Two pages show various wire rope assemblies. In addition there are tables covering galvanized steel and stainless steel ropes most generally used for wire rope assemblies, and bright steel ropes most generally used. Macwhyte Company.

Mobile Industrial Radio

9. MOBILE Industrial Radio for materials handling, plant maintenance, plant protection, yard equipment, etc. is the subject of new ECA bulletin, which explains what two-way radio is and what it does, and how it helps to cut costs and improve efficiency. Mobile Communications Section, Radio Corporation of America, Engineering Products Department.

LATEST TRADE LITERATURE

Check Over All Five Pages!
19, 21, 22, 24 and 180
Check Coupon on page 19

New Soda Ash Bulletin

10. EXPANDED and revised edition of its Technical and Engineering Bulletin No. 5 "Soda Ash—Its Properties, Loading and Unloading, Handling and Storage" is now available from the Allied Chemical & Dye Corporation. We will see that you get a copy if you check No. 10 on the Reader-Service coupon..

New Booklet on Steel Buildings

11. TWO standard types of Steelox buildings—shed roof and gable roof, which meet practically every need for warehouses, shops, offices and other similar structures, are shown in new manual SX-2051. There are complete descriptions of how the specially designed interlocking panels are erected, with detailed drawings. Other sections deal with accessories, insulation, painting and interior finishing. The manual contains several photographs of typical industrial and business installations. Armco Drainage & Metal Products, Inc.

Carboloy Thermistors

12. NEW catalog, 30 pages, TH-5, describes Carboloy Thermistors—electronic semi-conductor control elements whose electrical resistance responds negatively to minute temperature changes. Basic information on physical and operating characteristics is given. Typical Thermistor applications and wiring diagrams are listed, and graphical data of temperature-resistance ratio characteristics for rod, disc and washer-types are included. Page of the catalog is devoted to suggested applications in various industries. Carboloy Dept., General Electric Co.

Bit Holders and Insert Bits

13. CATALOG 26 contains complete listing of bit holders and insert bits to drive Phillips, Frearson, Slotted, Clutch Head and Socket Head screws. It is sectionalized for quick reference and easy ordering. All bit holders, service drive bit holders and hand drivers available for 1/4" and 5/16" hex, and 1/4" and 5/16" square insert bits are carried in separate sections. Hand drivers and sockets for 3/16", 1/4", 5/16" and 11"32" hex nuts are also cataloged. The Apex Machine & Tool Co.

Nylon As A Bearing Material

14. MAYBE you are one of the many who are interested in nylon as a bearing material. Bulletin on Nylined bearings for rotation or reciprocation gives pertinent information on such factors as heat resistance, lubrication, chemical resistance, quietness, strength, low friction and wear, data on operating principles, applications of Nylined bearings, and design availability. Thomson Industries, Inc. Manhasset, N. Y.

Mildewproofing Agents

15. TWELVE-page Technical Services Report on Mildewproofing agents with emphasis on 8% copper maphthenate and other chemicals with respect to Government specifications is available from the Witco Chemical Company. The report gives brief description of the methods used for mildewproofing materials and some of the products used therefor, together with abstracts of many of the government specifications on mildewproofing requirements.

Hydraulic Couplings

16. BULLETIN 6020 illustrates and describes the traction type Nelson liquid drives, traction-sheave for belt driven installations, traction-flexible coupling for hub-mounted installations, and traction - hub mounted for special installations. The following operating advantages made possible by liquid drives are listed: Smooth flow of power, elimination of starting shock, easy starting, reduced current input to the motor, simple controls, and protec-

(*Please turn to page* 22)

(Continued from page 21)

tion of machinery against costly breakage and down-time caused by abuse. Liquid Drive Divn., G. E. Nelson Co.

Saran Rubber for Corrosion-Resistant Linings

17. NEW booklet on saran rubber as a corrosion-resistant material for tank linings and other applications where corrosive problems are encountered, has been issued by the Saran Lined Pipe Co., distributors of the material for The Dow Chemical Company. Contents of the booklet include the properties of the material, a comprehensive listing of the resistance of saran rubber to chemicals and solvents and illustrations of many current uses of the versatile material.

General Purpose Motors Bulletin

18. CONSTRUCTION features, ratings and dimensions of Allis-Chalmers open drip-proof (Type AP) and splash-proof (Type APWW) squirrel-cage induction motors in ratings of 1.2 to 100 hp are shown in Bulletin 51B6210D. According to the bulletin, the motors are available with many special modifications such as totally-enclosed, vertical mounting, flange mountings, and multi-speed construction. All ratings are available in NEMA Design B, and most in NEMA Design C. It is pointed out that Design B motors are suitable for the majority of cage motor applications. Allis-Chalmers Mfg. Co.

Drying, Cooling and Processing Bulk Materials

19. BOOK No. 2409 on Multi-Louvre driers offers volume of information on the drying, cooling and processing of bulk materials. This dryer is widely used by the coal, food, chemical process and fertilizer industries for materials which require fast treatment and accurate temperature control. The book gives a detailed description of the dryer, how it works, and shows typical layouts. It also provides a clearly understandable explanation of the basic principles of heat drying. Link-Belt Co.

LATEST TRADE LITERATURE
Check Over All Five Pages!
19, 20, 22, 24 and 180
Check Coupon on page 19

Pyrometric Switches

20. CATALOG 5800 illustrates and describes rotary, key and plug type pyrometric switches. Applications and pertinent circuits are also given. Dimensions, mounting details and switch circuits are included. Brown Instruments Divn., Minneapolis-Honeywell Regulator Company.

Sliding Head Floor Drill

21. CATALOG D-110 illustrates and describes the C-O Cincinnati 14″-3000 sliding head floor drill with exclusive tilting motor bracket for easy speed changes. Speeds are changed merely by tilting the motor bracket and shifting the belt. No wrenches are needed. Two work tables—square and round—expand the variety of work that can be produced on the drill. Canedy-Ott Divn., Cincinnati Lathe and Tool Co.

Manual Covers 800 Building Materials and Products

22. EIGHT hundred building materials and industrial products obtained from asbestos, asphalt or magnesia, are listed in a new reference manual. Roofings, insulations, paving materials, paints, etc. are included. The manual shows Army, Navy, MIL, Federal, ASTM and other specifications, plus their corresponding product. Whether the product meets, can meet, or does not meet required specs is indicated. All information is cross-indexed to provide efficient reference. The Philip Carey Mfg. Company.

High Speed Automatic Gaging and Sorting

23. BULLETIN, 20 pages, entitled "High Speed Automatic Gaging and Sorting" illustrates the various types of automatic gaging methods and gages designed and built by Federal, including continuous measuring gages. All employ electro-mechanical and electronic systems for obtaining desired results. They differ from the straight electrical sorting gages in that the electronic system enables parts to be sorted into numerous categories according to requirements. Federal Products Corporation.

Selenium Rectifier Stacks

24. A NEW 28-page, two-color booklet describes the basic characteristics and the applications of selenium rectifier stacks. Designated as GET-2350, the booklet is complete with charts, graphs and tables illustrating the principles of rectification and the characteristics, manufacture, circuit design and application of selenium rectifiers. Lighting and Rectifier Dept., General Electric Co., Schenectady, N. Y.

Radius-Tangent-Angle Wheel Truing Simplified

25. CONTINUOUS radius and tangent wheel truing attachment designed to form, with one continuous movement of the diamond, accurate radii on grinding wheels with accurate tangents at either or both sides of the radii, is described in new bulletin. Attachment is firmly clamped to machine table by a single T-bolt. Accurate alignment is assured by two reversible tongues for T-slots ½″ or 9/16″ wide. Brown & Sharpe Mfg. Co.

New Plain Grinding Machine

26. BULLETIN describes new 30″-36″-48″ Type CHW plain grinding machine which is designed to accommodate large diameter work pieces such as jet turbine rotors, track carriers, large diameter motor armatures, water valves and similar pieces. It features extra wide spacing on the carriage ways which provides maximum stability of the work carrying members when grinding large diameter work. Landis Tool Co.

Cold-Drawn Carbon Steel Mechanical Tubing

27. THE advantages that accrue through the use of tubing in the production of hollow precision parts are outlined in data card published by the Tubular Products Division of the Babcock & Wilcox Co. In

(Continued on page 24)

MACWHYTE



PREformed . . . Internally Lubricated

WIRE ROPE

for all equipment

From Macwhyte's complete line of a thousand and one sizes and types you get rope best suited to your equipment, designed, PREformed, and internally lubricated to provide long, safe service. (Catalog G-15.)



Wire Rope

SLINGS

for lifting and moving materials and equipment in production or maintenance.

There are hundreds of types and sizes of Macwhyte Flat-Braided, Round-Braided, Single-Part, and Grommet Slings. All are custom made in length, capacity, and flexibility to meet your needs. (Catalog S-8.)



Wire Rope

ASSEMBLIES

for machine parts, controls, and operating devices.

Macwhyte Safe-Lock wire rope assemblies are made to order in length, strength, and flexibility desired. Terminals are permanently attached to one or both ends. There are many standard types. (Catalog 5201.)



Macwhyte Company, 2918 Fourteenth Avenue, Kenosha, Wis. Manufacturers of Internally Lubricated PREformed Wire Rope, Braided Wire Rope Slings, Aircraft Cables and Assemblies, Monel Metal, Stainless Steel Wire Rope and Wire Rope Assemblies. Mill depots: New York • Pittsburgh • Chicago • Minneapolis • Fort Worth • Portland • Seattle • San Francisco • Los Angeles • Distributors throughout U.S.A.

Catalogs are available on request to Macwhyte Company or authorized distributor. 1016 SW

(*Continued from page 22*)

addition to pointing out the savings in time and costs that come through the use of seamless cold-drawn carbon steel mechanical tubing for the production of such parts, the bulletin presents tables of tolerances and mechanical properties of such tubing.

Washer Catalog

28. WASHER catalog, eight pages, contains complete listing of washers plus a section of useful information of interest to personnel throughout the purchasing department and stock room. It gives dimensions, prices and finishes. It illustrates some of the special washers that the company makes and lists the carton and keg sizes available. The useful information section has a decimal equivalent table, and tables showing diameters, weights and thicknesses of washers. It also lists the proposed American standard for apparatus and plain washers. Joliet Wrought Washer Co.

Corrosion Resistant Valves

29. SERVICE bulletin of 35 pages, No.V-217, describes types, sizes, operation and features of Rockwell-built Nordstrom corrosion resistant valves. Special reference is made to Nordstrom multiport, steam jacketed and power operated valves and their applications in the chemical and process industries. Over 100 photographs, sectional drawings and dimensional drawings illustrate valve sizes, types and applications. Section is devoted to lubricants and lubricant equipment. Information is also given on Edward heavy-duty instrument and gauge valves. Rockwell Mfg. Co.

Fractional HP Gear-Motors

30. A NEW 8-page bulletin, GEA-5678, on fractional horse-power gear-motors lists 61 standard models. It describes applications and outlines a simple method of determining correct horsepower requirements with the use of an ordinary pipe wrench and fish scale. In addition there are cut-away drawings, selection charts, and dimension tables for both concentric-shaft and right-angle shaft gear-motors. General Electric Co.

LATEST TRADE LITERATURE
Check Over All Five Pages!
19, 21, 22, 24 and 180
Check Coupon on page 19

Flexible Synthetic Materials

31. BULLETIN describes number of highly resistant and flexible synthetic materials, including fluorocarbons. It gives information about Fluroflex-T—trademark of products processed from "Teflon" resin which are unaffected by all chemicals except molten alkali metals and fluorine at elevated temperatures and pressures. They withstand temperatures from —90°F to +500°F, and are non-flammable. Fluoroflex-C is trademark of products produced from "Kel-F" and Fluorothene resins, which are highly resistant to concentrated acids, alkalis and vigorous oxidizing agents at temperatures from —320°F to plus 390° F. Compar which permits parts to contain gases or maintain vacuum, and Silicone rubber which will stretch 200% and return like natural rubber to original rubber, are also described. Resistoflex Corp.

ABC of Molybdenum Lubrication

32. "ABSTRACTS, Bibliography and Case Histories of Liqui-Moly (Molybdenum Disulfide) Lubrication" is the title of a new technical bulletin on the application of Liqui-Moly lubricants. It also describes the 11 different forms in which the lubricants are now offered. Copy of this bulletin 21-G is available from The Lockrey Company, Lubricants Divn.

Steel Storage Racks

33. BULLETIN 5221 presents Barrett steel storage racks for drums, barrels, crates, skids and pallets, fully illustrated with installation views. The bulletin demonstrates how storage rack systems solve the floor-space shortage problem, and sets forth other advantages such as eliminating breakage and damage and shortened inventory time. Barrel racks include selective drain racks which permit removal of contents of barrel or drum without removing it from the rack. Barrett-Cravens Co.

Open Channel Flow Meters

34. NEW bulletin No. F1606 describes The Bristol Company's Series 500 line of Open Channel flow meters. It describes the application of the instruments to the measurement of the flow of water, sewage, industrial plant effluent, irrigation water and other liquids through weirs and flumes of all types.

Small, Precision Cutting Tools

35. "SMALL Cutting Tools of Extreme Precision" is the title of an 18-page catalog No. 20 which illustrates and describes the complete W-S line of precision cutting tools including carbon-steel taps, prong dies, small reamers, hollow mills and centering tools, small counterborers and steel drills. In addition to information on sizes and shapes, there are interesting case histories describing how users have been able to speed production, lower costs and obtain longer tool life with the tools. Woodruff & Stokes Co., Inc.

Portable Hydraulic Cutting Tools ½" Rod to 3½" Cable

36. CATALOG tells about the Guillotine line of portable hydraulic cutting tools, showing six series of Guillotines and 26 different models, their uses, capacities and specifications. The Guillotines exert up to 50 tons thrust and cut materials ranging from ½" steel rod to 3½" armored cable. Accessory equipment is also listed. Manco Manufacturing Co.

Sling Chains

37. ACCO registered sling chains are fully described with illustrations and specifications on the different types in new catalog issued by American Chain & Cable Co., Inc. In addition to regular types of End-welder sling chain, information is given on ACCO registered sling chain with foundry hooks and ACCO Ox-Bow Magnet chains.



Designed by Gibbs & Cox, Inc. Built by Newport News Shipbuilding and Dry Dock Company.

most modern ship. It also indicates why the S.S. *United States* — containing many of the same machines found in plants, mills and mines — presented lubrication problems as complex as any ever encountered in industry.

To solve these problems — to protect giant steam turbines, intricate hydraulic systems, generators, compressors, precision instruments and controls— United States Lines called on Socony-Vacuum.

Today, the S.S. *United States* is protected stem to stern by a complete program of Correct Lubrication. This same unsurpassed protection is available to *you*. Why accept anything less?

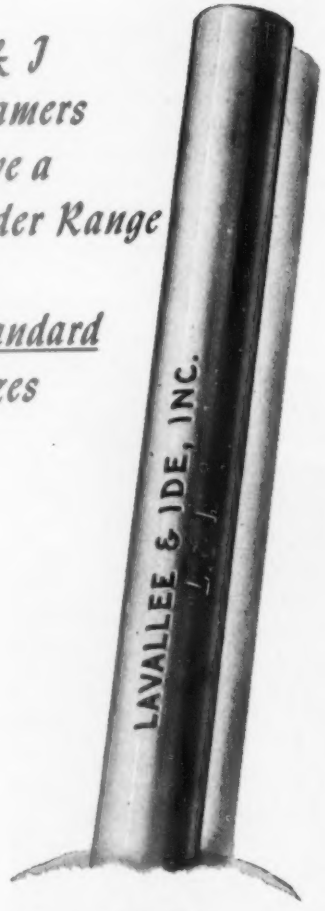
SOCONY-VACUUM

Socony-Vacuum

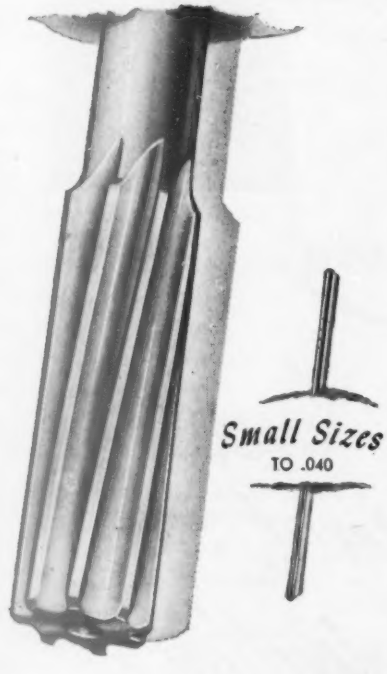
Correct Lubrication

SOCONY-VACUUM OIL COMPANY, INC., and Affiliates:
MAGNOLIA PETROLEUM COMPANY, GENERAL PETROLEUM CORPORATION

L & I Reamers have a Wider Range of Standard Sizes



Large Sizes
TO 1½"



Small Sizes
TO .040

L·I

The Reamer Specialists
LAVALLEE & IDE, INC.
CHICOPEE, MASS.

F.O.B.



FILOSOFY OF BUYING

Convention Musings

Atlantic City's climate, so they say,
Is most delightful toward the end of May,
But don't quote N.A.P.A.

Utah, perennial winner of the attendance cup,
Retired one trophy, put another up.

Economists, when asked to tell how things will go,
Spend half their time explaining how close they guessed in their predictions of a year ago.

When speakers get a schedule and abuse it
The moderator should have a great big heavy gavel—and should use it.

The future's very bright, but to our sorrow,
The future never comes; it's still tomorrow.

• •

Extra-Curricular Activity. Advertising journals last month carried photos of P. A. Hack Jones (du Pont) serving as one of the judges for the advertising awards of the National Industrial Distributors Association. His colleagues in that chore were an eminent professor of marketing and a top advertising executive. The buyer may not qualify as an expert in advertising techniques, but it is smart advertising to consider the reactions of the man to whom advertising is addressed. Advertising and its techniques are means to an end, and here—even more than in most other phases of business, the customer is always right.

• •

Time to Retire? One of the most remarkable long service records in purchasing that has come to our attention is the case of 82-year-old Gustave Jacobs, Purchasing Agent for the Bartholomay Dairy of Rochester, N. Y., who has been continuously associated with the firm for the entire 63 years of his business life, most of the time being spent in purchasing. The company itself is celebrating its centennial anniversary this year, but has undergone one major change—it has always been in the beverage business, but when Jacobs first joined the outfit it was operating not as a dairy, but as a brewery. Interviewed by a reporter from the Rochester *Times-Union*, the spry octogenarian was asked why he has stayed so long with one firm. Reply: "I was satisfied." Asked whether he has plans for retirement, he answered in the negative. "I'm still satisfied." Quite obviously, so is the company.

• •

Growing Pains. The rapid growth of many manufacturing companies, with the accompanying growth of purchasing departments and the lack of time to indoctrinate new personnel in the ethics of buying, has posed a serious problem for those in charge of procurement. The Material Manager of Piasecki Helicopter Corporation has faced this problem by issuing an open letter to all of the company's suppliers and subcontractors. This communication says, in part:

> "Because Piasecki has expanded rapidly in the past year, and is continuing to grow at a rate far above normal, the volume and complexity of our purchasing and subcontracting has increased, as has the number of our people engaged in all aspects of the procurement program.
>
> "We are aware that a serious growing pain could develop if the practice developed among some suppliers of offering gratuities to Piasecki employees on the theory, understanding, or suggestion that this would assure or assist them in obtaining business from us.
>
> "There is never any need to pay anyone, other than your own established sales people, to assist in getting an order from Piasecki.

"By 'pay' we mean any compensation at all—cash bonus, commission, lavish entertainment, or anything of the sort—whether solicited or not.

"In our procurement operations, now centralized in the Materiel Department, we cannot condone 'accepted trade practices' which conflict with this policy, and we will, as a necessary part of this policy, deal summarily with any employee who might solicit or accept payment or favor for actually, or supposedly, helping a supplier to obtain or keep our business.

"By the same standard, we will not place or keep business with any concern which is a party to such practices. There is a provision in Department of Defense prime contracts which makes the giving of gratuities to a Government employee under certain circumstances a cause for cancellation as a breach of contract. Our attitude is identical. Such practices can incur Federal prosecution of the supplier and the individual alike.

"If there is room in your prices for commissions, bonuses or favors, pass it on to PHC as a refund or price reduction. I'll guarantee that such a voluntary price reduction will be reported by us to the Military Renegotiation Boards so that proper credit will be given to you there.

"I hope you will understand and agree that our policies cannot be other than as stated, and that a frank statement of them is in your interest as well as ours, and that you will cooperate fully in maintaining them. Your efforts as a supplier are an integral part of our defense production of Piasecki transport helicopters. Out mutual success depends in large degree on good teamwork and a spirit of fair dealing between us."

• •

Saving Face. It is reported that two Chinese purchasing agents representing the Chiang government in Washington have been recalled for alleged "fancy work" in connection with their buying operations. They decline to return to Formosa, however, on the grounds that their heads would be promptly chopped off on arrival. It is quite understandable, even to the non-Oriental mind, that they object to losing face in this manner.

• •

Right Number. The prevalence of ordering by phone has changed the sales technique of one bearings manufacturer. When his conventional mailing pieces failed to produce results, he substituted his phone number for the post office address. Sales up!

Are you getting these

Extra Dividends

from Red-Strand preformed wire rope?

● DO YOU KNOW that Hercules* Red-Strand preformed wire rope *consistently* lasts longer . . . speeds up operations . . . improves working conditions?

Does the preformed you use have the right degree of flexibility? Does it have absolutely correct strand clearances?

Are you getting preformed wire rope that is manufactured with the precise care . . . the exacting insistence upon *higher-than-rated* quality . . . and the specialized craftsmanship that goes into Hercules Red-Strand preformed wire rope?

Find out . . . it means money to you

Leschen wire rope specialists will help you answer these questions . . . to your profit. Ask them . . . before you place your next wire rope order.

Write for free copy of your "Use and Care of Leschen Wire Rope."



*Reg. U.S. Pat. Off.

A. Leschen & Sons Rope Co., St. Louis 12, Missouri

In business only to make wire rope — better wire rope — since 1857.

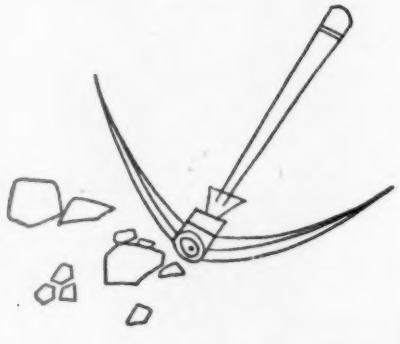
DISTRIBUTORS IN ALL PRINCIPAL CITIES



prospecting for specialty steels?

Relax and get in touch with Crucible. You'll find practically all of our more than 400 specialty steels readily available from stock in our nearest warehouse. If it's Tool Steel you're looking for, you'll find a *complete* line.

With Crucible warehouses conveniently located all over the country, there's bound to be one within quick delivery distance of your plant. Call us today.



Stocks maintained of:
Rex High Speed Steel . . . ALL grades of Tool Steel (including Die Casting and Plastic Die Steel, Drill Rod, Tool Bits and Hollow Drill Steel) . . . Stainless Steel (Sheets, Bars, Wire, Billets, Electrodes) . . . AISI Alloy, Max-el Machinery, Onyx Spring and Special Purpose Steels

CRUCIBLE first name in special purpose steels

52 *years of* *Fine* *steelmaking* **WAREHOUSE SERVICE**

CRUCIBLE STEEL COMPANY OF AMERICA, GENERAL SALES OFFICES, OLIVER BUILDING, PITTSBURGH, PA.

Branch Offices and Warehouses: ATLANTA • BALTIMORE • BOSTON • BUFFALO • CHARLOTTE • CHICAGO • CINCINNATI • CLEVELAND • DENVER • DETROIT • HOUSTON • INDIANAPOLIS • LOS ANGELES • MILWAUKEE • NEWARK • NEW HAVEN • NEW YORK • PHILADELPHIA • PITTSBURGH • PROVIDENCE • ROCKFORD • SAN FRANCISCO • SEATTLE • SPRINGFIELD, MASS. • ST. LOUIS • ST. PAUL • SYRACUSE • TORONTO, ONT. • WASHINGTON, D. C.

CHOOSING THE COURSE

THE convention program at Atlantic City was designed to provide an objective appraisal of markets and economic factors that make up the present business situation, in which purchasing agents must carry on their work. The statistics and indicators are fairly well known, and no serious discrepancies arose.

But speaker after speaker brought out the fact that the problems and uncertainties that beset us, the hazards that face the individual company, the specific industry, and the economy as a whole, are not problems of basic supply and the ability to produce. Almost without exception they get back to the human factor—the willingness to work, to work together, and to have a regard for the other fellow's interest—whether that other fellow be employer or employee, supplier or consumer.

Typical convention comments: "Depressions are man made." "The basic forces are in equilibrium; which way we go depends on the willingness to give and take." "A compromise of 5 cents an hour or 50 cents a ton might have avoided the steel crisis."

Obviously, it requires the cooperation and perhaps the compromise of both parties to achieve an equitable balance and a mutually profitable working agreement under such circumstances. In our international relationships, which are an exceedingly important factor, this is a task calling for a high order of statesmanship and the outcome will still be unpredictable. But on the home industrial front, which must support both our position in the family of nations and our domestic living standards, the responsibility comes right back to the managers and mechanics and negotiators.

Two conclusions may be drawn. In the first place, central controls are not the answer, however well intentioned and however ably conceived—and there are serious doubts on both of these premises.

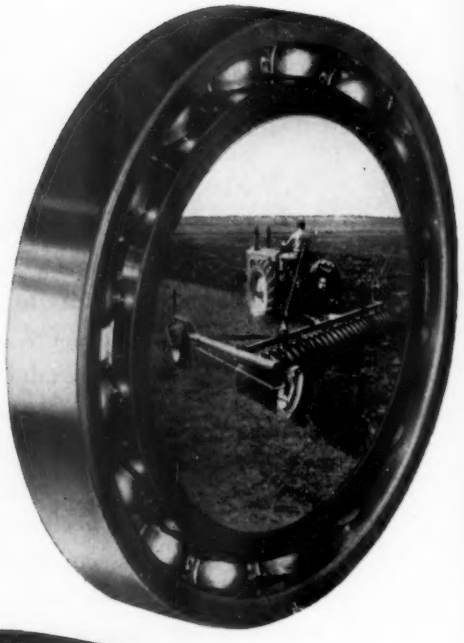
Secondly, though the purchasing agent is but one of the parties to a business negotiation and agreement, he is one of the parties at interest and he is in a strategic position to exercise the business statesmanship that will help to solve our economic problems.

If the convention sessions served no other purpose than to instill an awareness of this position in the minds of three thousand industrial buying executives, and to imbue them with the resolve to meet this responsibility broadly and intelligently, that purpose is well worth while.

Stuart F. Heinritz

No conversion problem ...

in these dual-purpose plants

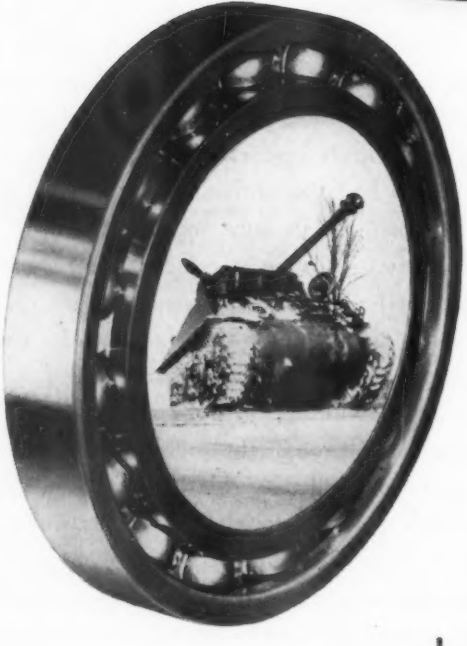


Jig borers and jets, trucks and tanks, household appliances and electronic instruments, all use New Departure ball bearings of the same materials, same heat treatment, the same methods of precision manufacture.

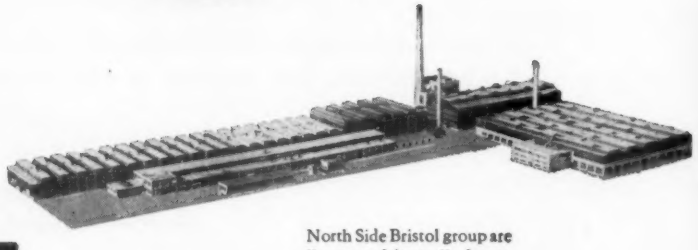
Thus conversion from one to the other in New Departure's three great plants is largely a matter of changing the emphasis on types and sizes.

The capacity of the world's largest ball bearing plants is your assurance of the best possible production schedules.

New Departure's engineers and vast resources for research are freely at your disposal.



Nothing Rolls Like a Ball...



North Side Bristol group are "guns-and-butter" plants.

NEW DEPARTURE

BALL BEARINGS

NEW DEPARTURE • DIVISION OF GENERAL MOTORS CORPORATION • BRISTOL, CONNECTICUT 166

Highlights

This issue's important features summarized for the busy reader



In this issue we report two recent annual meetings of purchasing agents, comprising a double feature of outstanding interest and importance in reflecting the current problems and thinking of the people who are responsible for procurement in these uncertain times, as well as the pertinent information and considered advice deemed essential in meeting today's buying situations. One of these meetings is the 37th annual convention of the **National Association of Purchasing Agents,** covering the whole broad field of procurement, but primarily concerned with the underlying economic and industrial trends which affect purchasing policies and performance. The other has to do with a more specialized field —the **National Association of Educational Buyers**—interpreting the same basic conditions in terms of policies and application to a more specific field.

Of primary concern to the N.A.P.A. group is appraisal of **The Economic Situation, Today and Tomorrow** (see page 72). Consensus of the several speakers and panel discussions was that current levels of activity would be maintained over the near term, but that a period of readjustment is inevitable within the next year with a decline in government spending, consumer resistance to high costs and prices, a gradual tapering off of industrial expansion, and the return of actively competitive markets.

Current Trends are reflected in our own monthly review of business indicators ("Where We Stand", insert page 107) which is supplemented by a Purchasing Opinion poll on the business outlook taken at the convention. The majority of those interviewed look for a sidewise movement in demand and prices for the near term, with ample supplies available, while in the longer outlook they see prices moving downward and supplies becoming more than ample. Compare your opinion with the tabulation on page 109.



For a comprehensive **Pictorial Review** of the entire convention activities, turn to the 16-page picture section starting on page 75, covering the highlights and the lighter moments, the personalities and the product exhibits, the Shipman Medal award, the group and panel meetings, and all the colorful detail of the biggest purchasing convention that has ever been held.

Considerable emphasis was placed on the **Controlled Materials**—steel, copper, and aluminum. Qualified representatives from these basic industries agreed in reporting that the shortages which had justified controls to meet emergency defense needs were now more apparent than real, and strongly recommended that the time had come to lift controls so as to permit these industries to go forward under the system of free enterprise and competition that is at the foundation of American development and progress. Detailed reports of these papers are on pages 95, 96, and 97.

Also menacing the accepted means of doing business is the new interpretation placed on **Business Law** in recent actions of the Federal Trade Commission. A convention paper of unusual interest (page 99) cites the ways in which current enforcement is placing an impossible burden of responsibility for compliance on the buyer.



At the N.A.E.B. convention, the present situation was viewed rather in the light of a time in which the purchasing department should bend every effort toward doing a **More Efficient** and well organized job of procurement and administration. This theme is emphasized in the general convention report (page 103), and the specific papers and addresses from this conference deal more with the basic methods and policies that contribute to a sound purchasing program and the system for carrying it out.

One of these papers (page 115) sets forth the principles of **Essential Purchasing Records and Forms,** based on the experience and practice of a medium size purchasing department, with practical suggestions on the classification and design of those forms, making for economical procurement of these tools of purchasing.

Reports to Management provided the subject of another convention paper (see page 120). This too is a basic matter of concern to all purchasing agents. The paper covers such matters as the frequency of reports, what should be included, and methods of presentation to be of maximum value to top management and in contributing to more effective purchasing performance.

A third paper, reported on page 124, deals with the problems of **Substitution,** which is not always the complete or final answer to difficulties of supply. The recital of specific examples in which substitution has been successful, and other examples where it has been found impractical, give authenticity and add to the value of this presentation.

Are you making full use of these monthly departmental features compiled especially for the purchasing agent? The **Washington Previews** (page 13) keep you informed on current developments in governmental policy. Another section is devoted to **Office Equipment and Forms** (page 179). Informative **Trade Bulletins and Catalogs** listed on page 19 are yours for the asking.



RYERSON

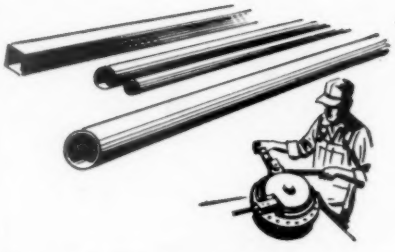
The Industrial P. A.'s Department Store

Here are a few of the many types of steel and related products on hand right now, ready for immediate shipment from your nearby Ryerson plant. Many may be used in place of products that are still hard to get. Check the items you need, and save time by ordering them next time you call Ryerson.



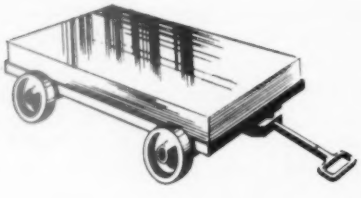
ALLOYS

Tested alloys of known hardenability, both standard and aircraft quality. Complete heat treatment guide with each shipment.



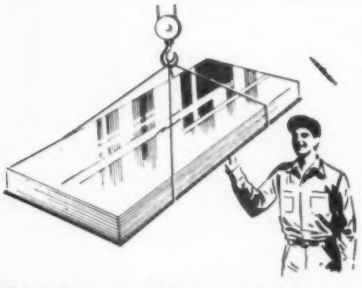
WELDED MECHANICAL TUBING

Hot and cold rolled, rounds and squares in a wide range of sizes. Consider cost. Substitute for seamless tubing.



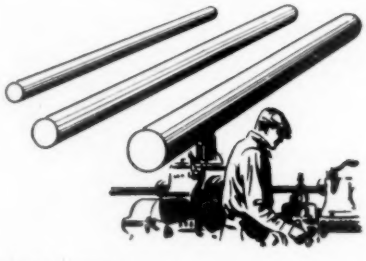
CARBON SHEETS

Both hot and cold rolled coming into better supply, especially cold rolled in the heavier gauges.



STRAIGHT CHROME STAINLESS

No allotment required for these stainless bars, plates and sheets—and they can often replace restricted nickel-bearing types.



TOOL STEEL

Water, oil or air hardening steel. High in quality; economical in price. Hardening data with every shipment.



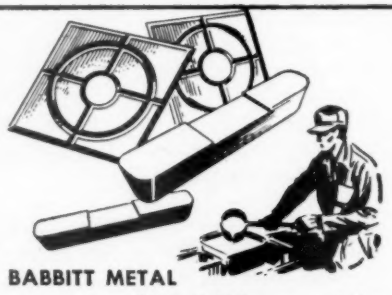
SAFETY PLATE

Strong, non-skid Inland 4-Way Safety Plate protects feet against slipping, floors against wear. Easily fabricated.



CHAIN & WIRE ROPE

Rugged, dependable TM chain, iron, steel and alloy qualities, furnished to order. High quality wire rope shipped from large stocks.



BABBITT METAL

Glyco Babbitt, an exclusive Ryerson product, has physicals equal to high tin Babbitts; costs substantially less and is unrestricted.

RYERSON STEEL

JOSEPH T. RYERSON & SON, INC. PLANTS AT: NEW YORK • BOSTON • PHILADELPHIA • CINCINNATI • CLEVELAND • DETROIT
PITTSBURGH • BUFFALO • CHICAGO • MILWAUKEE • ST. LOUIS • LOS ANGELES • SAN FRANCISCO • SPOKANE • SEATTLE

The Purchasers' Choice . . .

CHRISTENSEN HEADS N.A.P.A.



AGAINST the backdrop of a national presidential election year marked by bitter intra-party campaigning of literally global scope, TV and radio fanfare, coonskin caps, and preferential primaries, the National Association of Purchasing Agents quietly went about the business of selecting a qualified leader for the critical business year ahead, at the 37th annual convention at Atlantic City, N. J. Their choice—H. W. ("Chris") Christensen of San Francisco, Director of Purchases for U. S. Steel Company's Columbia-Geneva Division. The announcement was greeted with an ovation at the National Directors' meeting on Tuesday morning, and again at the convention banquet that evening. The able and popular West Coast executive succeeds C. F. ("Chet") Ogden of The Detroit Edison Company.

Mr. Christensen's long and active business career has been closely identified with the West Coast steel industry and with the purchasing profession since 1920, when he joined the purchasing department of Llewellyn Iron Works of Los Angeles. He has been associated with the Columbia organization since 1933, serving for some time as Assistant Manager of Sales, and heading the company's purchasing operations since 1939.

Throughout his business life, he has taken an active and prominent part in Association activities, in service and leadership. A pioneer and leader in the educational program, he has appeared as guest lecturer on purchasing at leading West Coast educational institutions, including the University of Southern California, University of California (both at Berkeley and Los Angeles), Stanford University, and Golden Gate College. He has served as President of the Los Angeles Association and of the Northern California Association, and has twice been elected to the National Executive Committee as Vice President for District No. 1—in 1927, and again in 1951. His election as President of N.A.P.A. is a natural sequel and a tribute to his outstanding qualities of ability and leadership.

Mr. Christensen is a native of Brooklyn, N. Y. He saw active service in the Mexican Border campaign and was a Captain of Field Artillery in the AEF during World War I. He has frequently been called upon in an advisory capacity to the Government. At the present time he is Chairman of the West Coast Procurement Advisory Committee of the National Security Industrial Association; Chairman of the Purchasing Advisory Council to the Municipal Government Survey Committee, San Francisco; and a member of the Industrial Advisory Committee, Iron and Steel Scrap Division, NPA.

He is a past Commander of San Marino Post 239, American Legion; Honorary Life Commander of the Broken Spur Patrol; member of the World Affairs Council of Northern California; San Francisco Chamber of Commerce, and the American Iron and Steel Institute. His principal hobby is horsemanship, and he has garnered an impressive collection of trophies riding hunters and jumpers in competition.



Seated (l. to r.): J. F. Stephenson, Hamilton; E. F. Andrews, Indianapolis; H. W. Christensen, San Francisco; C. F. Ogden, Detroit; G. H. Porter III, Cleveland; W. S. Flinn, Chattanooga.
Standing (l. to r.): A. R. Lama, Los Angeles; D. G. Donovan, Boston; A. W. Soell, St. Louis; J. M. Austin, Oneida, N. Y.; J. M. Pierce, Wichita.

New Board takes office at Atlantic City meeting

N.A.P.A. Executive Committee 1952-1953

President: H. W. Christensen, Director of Purchases, Columbia-Geneva Division, United States Steel Company, San Francisco. Mr. Christensen served as Vice President for District 1 in 1927-1928, and again in 1951-1952.

Past President: Chester F. Ogden, The Detroit Edison Company, Detroit, Mich. Mr. Ogden served as Vice President for District 4 in 1950-51, and was National President of N.A.P.A. in 1951-52.

District 1: A. R. Lama, Los Angeles Brewing Company, representing the British Columbia, Hawaii, Los Angeles, Northern California, Oregon, Utah, and Washington Associations.

District 2: John M. Pierce, City Purchasing Agent, Wichita, Kansas, representing the Dallas, Fort Worth, Houston, Oklahoma City, Shreveport, Tampico, Texas Panhandle, Tulsa and Wichita Associations.

District 3: A. W. Soell, Gaylord Container Corporation, St. Louis, representing the Central Iowa, Chicago, Denver, Kansas City, Milwaukee, Rock River Valley, St. Louis, Tri-City, Twin City, and Twin Ports Associations.

District 4: E. F. Andrews, Pitman-Moore Company, Indianapolis, representing the Central Michigan, Detroit, Eastern Indiana, Fort Wayne, Grand Rapids, Indianapolis, Kalamazoo, Saginaw Valley, South Bend, and Western Michigan Associations.

District 5: J. F. Stephenson, Kraft Containers Limited, Hamilton, Ont., Canada, representing the Calgary, Central Ontario, Edmonton, Essex-Kent, Hamilton, Montreal, Niagara District, Toronto, Western Ontario, and Winnipeg Associations.

District 6: George H. Porter, III, The George H. Porter Steel Treating Company, Cleveland, representing the Akron, Canton, Cincinnati, Cleveland, Columbus, Dayton, Erie, New Castle, North Central Ohio, Northwestern Pennsylvania, Pittsburgh, Springfield, Toledo, Tri-State, and Youngstown District Associations.

District 7: W. S. Flinn, Chattanooga Rock Products Company, Chattanooga, Tenn., representing the Alabama, Chattanooga, East Tennessee, Florida, Georgia, Louisville, Memphis, Mississippi, and New Orleans Associations. (Mr. Flinn previously represented District 7 on the Executive Committee in 1945-1946.)

District 8: Jos. M. Austin, Oneida Ltd., Oneida, N. Y., representing the Baltimore, Buffalo, Carolinas-Virginia, Eastern New York, Elmira, Lehigh Valley, New York, Philadelphia, Reading, Rochester, Syracuse, Washington (D.C.), and Wilmington Associations.

District 9: Daniel G. Donovan, Pepperell Manufacturing Company, Boston, representing the Connecticut, New England, Rhode Island, and Western Massachusetts Associations.

Convention Program Chairman

(See Front Cover Portrait)



Vincent dePaul Goubeau

IN thirty-seven years of consistently high grade and outstandingly successful annual conventions, the National Association of Purchasing Agents has held to the principle that "the program makes the convention". The position of General Program Chairman is recognized as one of the most important responsibilities in the entire official slate, and the roll of those who have carried on this activity over the years reads like the "Blue Book" or "Who's Who" of Purchasing.

The man responsible for the program of the 37th Annual Convention of N.A.P.A., reported in this issue, is Vincent dePaul Goubeau, Vice President and Director of Materials for the RCA Victor Division of Radio Corporation of America, Camden, New Jersey.

Mr. Goubeau is a native of New York City, and received his education at De La Salle Institute. For approximately twenty years, he was associated with the purchasing department of the United Fruit Company, starting as an assistant buyer and rising to the position of Purchasing Agent at the Boston offices of that organization.

In March 1942, he resigned from his position in private industry to join the Navy Department in a civilian capacity as Chief of the Contract Clearance Division in the Office of Procurement and Material. His duties involved the approval of all Navy supply contracts exceeding $200,000 in value. He organized this Division and administered it until December 1943, when he was appointed Deputy Chief of Procurement, Office of Procurement and Material, Navy Department. A year later, he became Chief of Procurement, and held that vital position in the Navy supply organization right up to V-J Day.

In October 1945, he joined RCA Victor Division as General Purchasing Agent and Director of Materials. He was elected Vice President in March 1949.

Throughout his purchasing career, Mr. Goubeau has maintained an active and constructive interest in the affairs of the Purchasing Agents Association. For many years he was affiliated with the New England Association, which he served as President and National Director. Upon his return to private industry after the war, he joined the Philadelphia Association, and was promptly enlisted for leadership in important committee assignments for that group. At the present time, he is Vice Chairman of the National Committee on Standardization, N.A.P.A.

A recognized authority in the field of materials management and control, he has contributed many articles to business and management publications and is in constant demand as a speaker before business groups—not only among purchasing agents' organizations, but as spokesman for the purchasing viewpoint at national meetings of the National Industrial Conference Board, American Standards Association, and similar bodies, as well as lecturing on purchasing at Boston University, Babson Institute, and other educational institutions. Off the platform, he is widely known as a brilliant raconteur, and his stories of French Canadian life and character, in authentic habitant dialect have enlivened many an informal gathering.

It is customary for PURCHASING's "cover boys" to present a guest editorial in the issue upon which their portrait appears. We depart slightly from that formula in the present instance. Mr. Goubeau's editorial contribution to this issue is: the entire N.A.P.A. convention program, which is reported in detail in these pages.

"Give and take" to avoid recession

The Economic Situation . . . Today and Tomorrow

By Dr. Edwin G. Nourse, former Chairman,
President's Council of Economic Advisers, Washington, D.C.



Abstract of address at the 37th annual convention, National Association of Purchasing Agents, Atlantic City, May 26, 1952

IF I were to attempt the shortest description of today's economic situation, I would describe it as "equilibrated." That is to say, there is a pretty good balance between conditions and forces that would make for reckless business plunging, runaway inflation, or the final "blow-off" of a boom; or, on the other hand, the collapse of ability to buy, general impairment of business confidence, snowballing unemployment, and contagious recession. The Government is committed to a scale of expenditures which will be large even after the present salutory, but cautious, pruning has been completed. Business is still in an uncompleted building program, and workers' pay envelopes are marked for further fattening both from overtime work and from higher pay rates. Thus the pipe lines that carry the national spending stream are full, and the pusher pumps still working.

It seems to me that the extent to which the public's propensity to save has been at a high level furnishes sellers a challenge to pare prices and accept healthful competition, rather than being a warning of near-term collapse of the national market. Liquid savings accumulated during these years might become a very useful prop to the consumer market if widespread strikes develop out of a showdown on the wage issue or if and when military spending is reduced and the construction cycle moves into its down phase. On the other hand, liquid savings are "hot money" and would add fuel to the flames if another inflationary movement gets under way.

Elaborating a little further on the idea of balancing or offsetting factors in the present situation, I would like to set over against each other the productivity index and the military program. The rise of our productive capacity and the "stretch-out" of the rearmament time table combine to ease the economic picture.

For the past two years, I have been about as loud as anyone in

"Unaccustomed as I am . . . ."



M. L. Patton
Coal

Leon Hess
Fuel Oil

Roy Haberkern
Session Chairman

N. J. Gibbins
Public Relations

pointing out the dangers of inflation growing out of the prospective rate of rearmament expenditure and of related industry building vis-a-vis the needs of civilian standards of living and population growth. After the Korean surprise, the military took the blackest view of the probability of other major Soviet aggressions. They wanted to get prepared for any emergency, and the public were hysterically ready to say yes to every request for funds.

This military pressure had its counterpart in the civilian area. Although we never really adopted a policy of full mobilization, the business and consumer public acted as though that condition was either here or just around the corner. During the two years of tension now abating, private business was overstimulated by the prospect of shortages even under partial mobilization, and practically everybody underestimated the new productive power of our industrial machine. Hence, overblown programs both of building and of buying, resulted in overcapacity and overstocking. From June, 1950, through 1951, there was real danger of an inflationary breakthrough.

Now, the sheer weight of goods is swinging the market from sellers' dictation to buyers' option. At the same time, the containment of Russia above the 38th parallel, added to the defeat of the North Koreans in 1950, and the Chinese "volunteers" in 1951—all on top of the winning of the Berlin airlift and the successful Greek resistance (with our aid) several years ago, now gives a much easier turn to the problem of "calculated risk."

Before we leave this contemplation of the present economic scene, it is obvious that one other factor has to be taken into account. This is the impact of strikes, uncertain as to number, magnitude, and duration. If I am correct in my interpretation that 1953 is a year in which the inflation potential is being "contained," then we may expect it to be a year of many and perhaps serious strikes unless, of course, means of handling industrial disputes are devised—in Congress or out. I have little faith that this will happen—in a campaign year of all times!

If we do have sizable strikes, that will aggravate still further the unwillingness or inability of consumers to buy goods. This would normally lead to lower prices, but more particularly in such items as food, clothing, and house furnishings. At the same time, work stoppages would contribute to scarcities, and scarcity normally means stronger price trends. Under present conditions, however, this upward push would be most effective in other areas of the economy than consumer goods, namely heavy industry and military "hardware."

Since strikes in one industrial area lead to uncertainty and cautious buying in many other areas, their power to start a downward spiral of progressive unemployment is one of the greatest threats to our high employment situation. I marvel that organized labor is as ready as it appears to be to play with this dangerous weapon in the present delicately balanced state of the economy. If we are to work out a practical system of sustained full employment under free enterprise, organized labor will have to exercise self-restraint at the same time that management will have to take calculated risks.

My fears about tomorrow's economic situation are based primarily on the mishandling of our private market relationships, our wage and price structure. Against improving prospects in the fiscal and monetary areas, 1952, behind its facade of superficial prosperity, is putting us into a much worse situation in terms of industrial and commercial market relationships. Even with good intentions as to budget balancing, the government finds its task made more difficult if not impossible so long as wages and prices are out of control. Nor can credit control arrest the wage and price rise when the very mechanism of economic adjustment has been converted into an engine of inflation. This, I think, is what has happened as the Office of Economic Stabilization has undertaken to supersede the process of collective bargaining. And the prospect of extricating ourselves from the mess we have got into in this area seems to me dim indeed. For these price and income relations get imbedded in business structures and practices and attitudes so rigid in character that it takes almost an ideological upheaval to change them.

If we truly believe in the preservation of a predominantly private system of business, we must recognize that the decisive factor in maintaining prosperous activity or of avoiding depressionary breakdowns lies in our voluntary market processes. We must establish wage, cost, price, and profit ratios that will furnish the necessary distribution of consumer purchasing power and at the same time preserve asset values and operating incentives.

This whole matter has been brought to a sharp focus and dramatic intensity in the steel wage case. Roger Putnam, administrator of the Economic Stabilization Agency, in a recent address, said: "If the economy were a slack one, rather than a generally tight one, I can assure you the dispute in steel would never

(*Please turn to page* 316)



H. R. Michel
Non-Ferrous Metals

W. H. Gehring
Coal

H. Luedicke
Moderator

G. A. Renard
Executive Secretary

Unratified Cartels

THE United States is now participating in inter-governmental commodity cartels that have never been submitted to Congress for ratification, declared John L. Collyer, President of The B. F. Goodrich Company, in an address before the convention of the National Association of Purchasing Agents, May 27th.

Mr. Collyer described the government's International Materials Conference (IMC) as "a mechanism which could be used to force a basic revision of America's competitive economy." He termed the IMC a "super cartel" and stated that it is in reality "a controlled materials program on an international scale with all the defects inherent in such schemes, including ultra-conservative estimates of production and varying degrees of overstatement of requirements."

"Autonomous committees of the International Materials Conference apportion available supplies of some scarce, essential raw materials of the free world; direct, in a general way, the usage each country may make of such materials, and seek to stabilize prices," Mr. Collyer said. The rubber company executive pointed out that IMC controls have already been extended over such materials as sulphur, nickel, copper, zinc, cobalt, and tungsten.

"Behind a veil of secrecy, decisions reached by the International Materials Conference — decisions which may cause great strains within our domestic economy—may go unchallenged until the damage is done. As one example, United States manufacturers are forced to reduce automobile production because of a lack of copper while other countries are allocated enough copper to increase their automobile production," he declared.

Mr. Collyer explained that "since the IMC already has the machinery, it would be easy to continue it indefinitely after the end of materials shortages. That may be the mechanism through which planners, always working behind the scenes on an international scale, could force a basic revision of our American competitive economy."

He endorsed current legislation now being considered in Senate and House committees to limit the authority of the executive branch of the government to participate in cartels.

Mr. Collyer pointed out that the peoples in the Far Eastern rubber growing areas would be handicapped in their fight against Communism and retarded in their efforts to raise living standards if an international cartel in rubber were to be established.

The danger that a rubber cartel may be established stems from the fact that "leaders in certain nations believe that it may be possible to eliminate or reduce the uncertainties of rubber production, consumption, and price, through inter-governmental agreements. But, instead of restricting production, we should make every effort to expand consumption. High prices restrict the use of rubber, and low prices encourage its use," Collyer explained.

He pointed out that every attempt to interfere with the normal functioning of the free market for rubber has failed, and added: "Perhaps the most important long-range result of previous cartels was the great stimulus given to the search for materials that could replace rubber in essential products. Interest was redoubled to find a satisfactory man-made rubber through creative research."

Get Acquainted With Your Lawyer

PURCHASING agents need to work closely with legal counsel because their jobs are much more complex and involve many more responsibilities than ever before, said Charles S. Maddock, Assistant Director, Legal Department, Hercules Powder Company, in an address before the Pulp and Paper Manufacturers' Buyers Group at the N.A.P.A. convention. He told the group that "better liaison between purchasing agents and attorneys will establish purchasing procedures that will help a company avoid undue legal hazards and at the same time assist the purchasing department in the performance of its work. The lawyer's greatest value will come not so much in advising how to get out of the trouble you are in, but rather in providing guideposts that you can follow in avoiding legal pitfalls. In short, your attorney can offer the most service if he practices preventive law."

Mr. Maddock cited some of the ways in which the purchasing function of modern industry has become more complex in recent years.

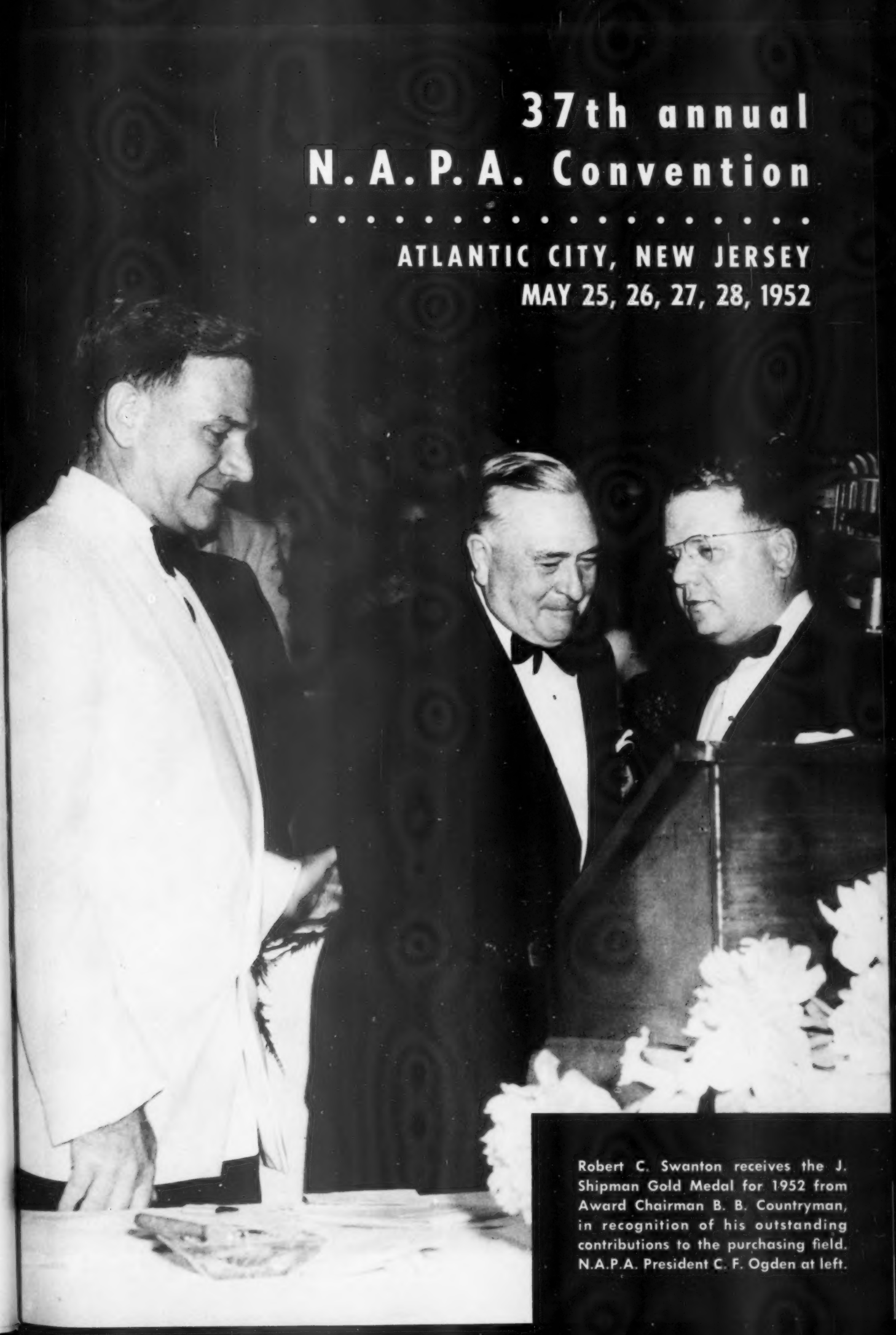
"Today's purchasing contracts are more detailed, more specific, and more complex than ever before," he said. "Provisions covering price protection, price escalation, and fair labor standards, are now standard terminology in purchasing contracts. Court decisions and legislation impose new obligations on buyers. The Robinson-Patman Act and ceiling price regulations, as examples, apply to buyers as well as sellers."

As evidence of this increased complexity in purchasing, the speaker called attention to the fact that there are now thirty-three major functions that are the responsibility of a company purchasing department, as against the fairly routine type of buying job that existed several years ago.

"The assumption of these new responsibilities has brought the need for new knowledge in technical fields, and also knowledge of the legal problems involved," he pointed out. "If purchasing men don't develop this necessary know-how, they will find that some one else in their organization will end up doing their purchasing job for them."

37th annual N.A.P.A. Convention

ATLANTIC CITY, NEW JERSEY
MAY 25, 26, 27, 28, 1952



Robert C. Swanton receives the J. Shipman Gold Medal for 1952 from Award Chairman B. B. Countryman, in recognition of his outstanding contributions to the purchasing field. N.A.P.A. President C. F. Ogden at left.



BIGGEST PURCHASING SHOW ON EARTH! Delegates converging on Atlantic City's Convention Hall, where the meetings and exhibit were held.



WHO'S HERE? First stop for most conventioneers was PURCHASING Magazine's directory board in the lobby, where arrivals and hotel assignments were tabulated.



REUNIONS were the order of the day. Bob Kelley of Dallas (right), a transplanted Yankee, stops to chat with some of his former associates in the New England Association.



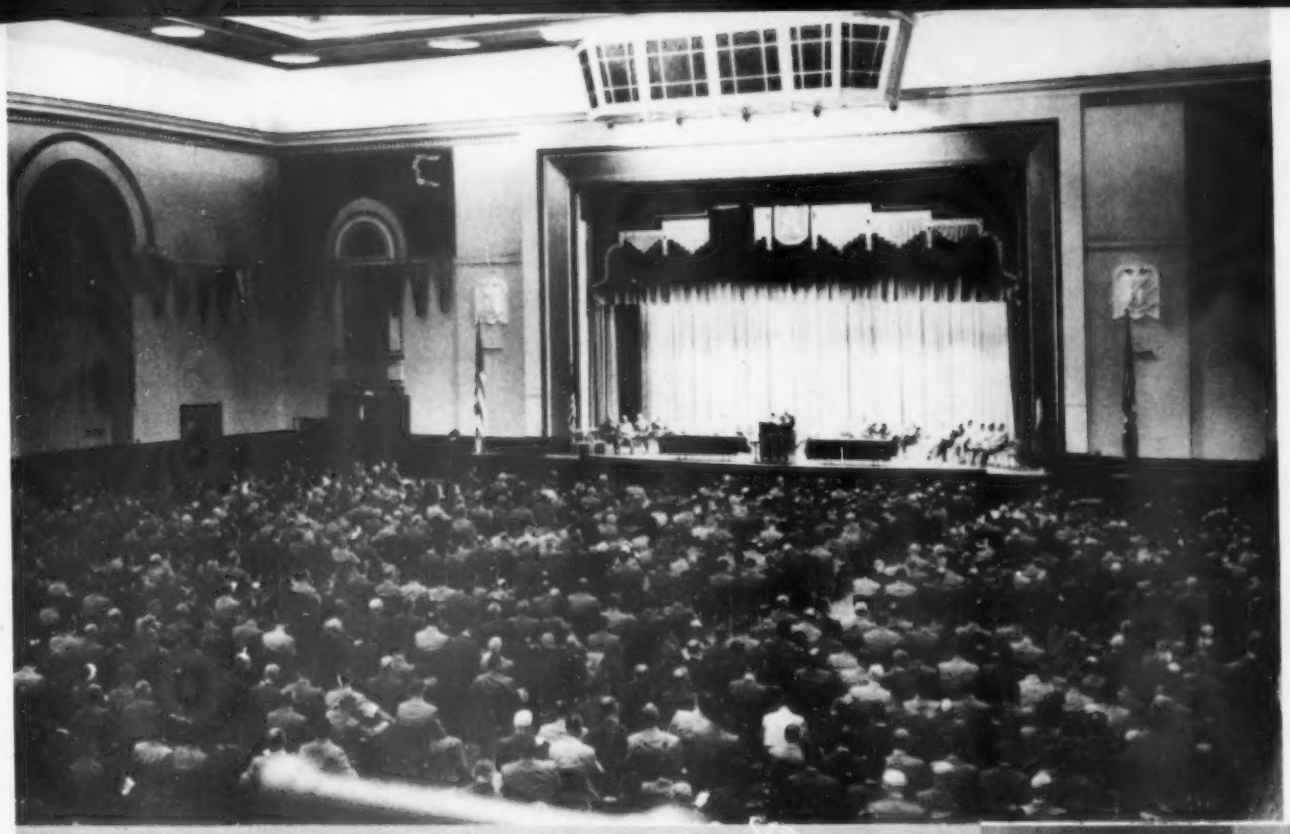
THE EXECUTIVE COMMITTEE, which had been at work for three days preceding the convention, was introduced at the opening session.

CONVENTION PROGRAM CHAIRMAN Vin Goubeau registers pleasure at the way the meetings are going.

LONE STARS. Charlie Wilson and Ben Newbery of Lone Star Gas Company have more than an office in common. Both men have headed District 2 and the Public Utility Buyers Group in the course of their Association activities.







BIG HALL — but keenly interested purchasing agents crowded it to capacity. Meeting attendance was consistently excellent throughout the three-day sessions.



P. J. ("Pete") CLARKE, Chairman of the Philadelphia Association's Convention Committee, does some serious tallying of registration figures.



PHILADELPHIA CONVENTION COMMITTEE handled all details of the Atlantic City conference smoothly and efficiently.



SERIOUS BUSINESS. Reception Committee Chairman W. L. Thompson and National Fuel Committee Chairman M. W. Merrill find a quiet corner for discussion of convention business.



IT ADDS UP to the biggest gathering of purchasing men ever assembled—any time, any place. Pete has a right to smile.

The "Buyers



Lunkenheimer Company's vice-president in charge of sales, Harry A. Burdorf, displays the trophy awarded his company's exhibit, and that of Kimberly-Clark Corp., jointly, as the most informative displays in the show. Retired sales representative Joseph Waldeck is at right.



A continuous demonstration of latest strapping techniques was a feature of the Acme Steel Company display.



J. B. Davies, Mine Safety Appliances Co., shows Mr. and Mrs. H. B. Van Fossen the construction of a respirator.



Frank A. Field, Federal Yeast Co., Baltimore, who "beat the clock" at Sylvania's booth, accepts his prize cane.



What makes it tick? Earl Griffin, Pate Supply Co., Birmingham, examines Walworth's unique transparent valve.

Were There" at N.A.P.A.'s Largest Inform-A-Show



Many a P.A. came away with a bagful of information from Kimberly-Clark's prize winning booth.



Discussing high points of Babcock & Wilcox tubing.



C. R. Raith, Rockwell Mfg. Co., right, hears about Standard Pressed Steel products.



The Westinghouse invitation was accepted by many P.A.'s.



Old and new are linked at the Link-Belt booth as past president George Aljian (1947) meets new president H. W. Christensen.



A busy moment at the Air Reduction booth.



RAIL BIRDS got a panoramic view of the Inform-A-Show from the balcony adjoining the meeting hall.



THE FAMOUS BOARDWALK was a popular and pleasant place for a stroll—between showers.



FAVORITE SON Kefauver got a boost from enthusiastic fellow Tennesseeans, J. T. Goyer of Oak Ridge, Raphael Semmes and W. S. Willis of Knoxville.



BUFFALO PAs patronize popular Boardwalk haberdashery and sport personalized headgear—Chester Bell, Al Chipman, and C. O. Sheldon.



THOUGHTFUL VOTER Ed Krech, New York, casts his ballot in the Purchasing Opinion poll on business outlook. Results are tabulated elsewhere in this issue.



RELAXATION. Hugh Pelott, Chicago, tries out Atlantic City's traditional transportation system, the rolling chair.

FRENCH BUYERS pose with PURCHASING's editor, who met with them on their arrival in this country in April. Front and center is Paul Gros, President of the P.A. Association of France.







INTERNATIONAL FLAVOR. Visiting group of French purchasing executives concluded six-weeks study tour by attending N.A.P.A. convention—followed the proceedings closely by means of interpreter on individual sound system.



JACQUELINE MENETRIER of the French Embassy, who accompanied the visiting buyers as interpreter, selects news releases of interest to her Government. Ted Morris and Frank Brodhead of the Press Committee stand by to assist.

THE NAVY was on hand, too. Lt. Commander A. J. Russell, of the Bureau of Supplies and Accounts, chats with Past President and Mrs. Hack Jones at the Early Birds Dinner.





IT WAS A TOUGH CLIMB up the aluminum stairway from the exhibit floor, but they made it. Bill Roemer (right), P. A. of Acushnet Process Co., New Bedford, Mass., with Karl Goodwin, General Sales Manager of the company.

ELDER STATESMAN E. B. Hendricks (left), founder of N.A.P.A. and still a consistent convention attender, talks things over with Frank Carter, Baltimore.

"PHILADELPHIA'S STORY"



"Professor" James McHugh, as commentator, did his best to confuse the presentation with a superfluity of erudition, but eventually succeeded in guiding it to a triumphant conclusion.



Marie Rooney, as the long-suffering secretary to P. A. Wyngate, finds that her troubles are multiplied when the boss is appointed Educational Chairman of his local Association.



Affairs have about reached the breaking point when Wyngate gets the bright idea of finding out how Philadelphia met the same problems and worked out successful answers.



Wyngate's committee finds that the Philadelphia organization plan is a sure-fire formula for adapting the program to local needs and sharing committee responsibilities.

The Wednesday afternoon session was devoted to the program and activities of the N.A.P.A. Committee on Education. It featured an original dramatization written, staged, and presented by an all-star cast of Philadelphia Association members outlining the organization and development of Association-sponsored purchasing classes in that city, and how similar programs can be adapted for use by both large and small Associations.

Philadelphia's experience in carrying out the theme "Advance through Education" is a success story of first magnitude. During the six-year period 1946-1952, a total of 27 courses have been conducted, classified as Basic, Advanced (Administration), and Techniques (How to Buy). 901 students have been served by this program. The continuing need and recognized value of this activity is attested by the fact that class enrollments in the sixth year of the program were at an all-time high:

Persons Completing the Courses:

	1946-47	1947-48	1948-49
Basic	106	51	48
Administration	51	105	31
Techniques	—	—	69

	1949-50	1950-51	1951-52
Basic	33	32	51
Administration	30	52	54
Techniques	76	49	61



The cast responds to a curtain call, along with author W. B. Hutchinson, director E. S. Hoffman, and stage directors James Pepper and E. M. Woodrow.

AUDIENCE REACTION



DEADPAN BANQUET ORATOR, Judge Harold C. Kessinger, evokes similar expression by Bev Countryman, St. Paul, Chairman of the 1952 Shipman Award Committee.

EARLY BIRDS ENTERTAINMENT held the close attention of a capacity audience, from start to finish.







LATE ARRIVALS find a vantage point from which to follow the speaker's comments.

NOTEBOOKS AND PENCILS were in evidence at all the major sessions — a tribute to the timeliness and calibre of the convention program.



AFTER THE MEETING, some brought their problems up to the panel chairman for clarification . . .

. . . while others preferred to settle the matters by private group discussion.





Gar Johnson of General Metals Powder Co. left, and W. O. Schroeder of Babcock & Wilcox with L. F. Putnam at the Eberhard Faber booth.



Up-to-the-minute catalogs were part of most exhibits. Here a visitor is getting the latest data on Coffing hoists.

OVER 100 EXHIBITS • THOUSANDS

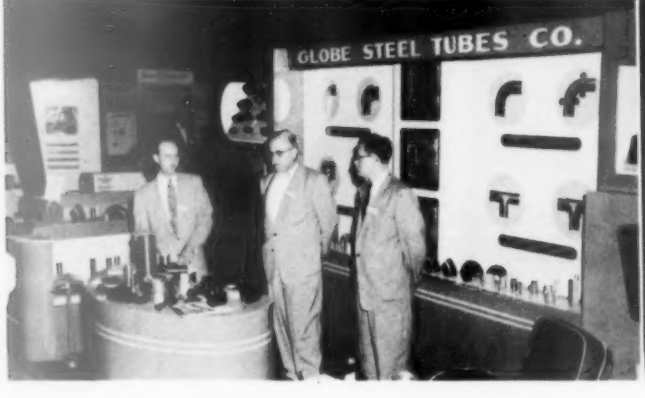


Information charts at the Jenkins Bros. booth.



Non-ferrous specialties were featured at the Federated Metals Division exhibit.

Globe Steel Tubes had a variety of products.



Lively interest was shown in Philip Carey Company's industrial line.





Hinde & Dauch's exhibit showed a wide variety of standard and special packaging.



Alex West explains the merits of Barreled Sunlight Paints to John H. Johnson, P. A., Crompton & Knowles, Worcester, Mass.

OF IDEAS • AT THE INFORM-A-SHOW



Tom Hudson of Cleveland drops in to look over his company's product display.



Canadian P.A.'s John T. Hammond and John U. Barlow at the Sanitary Institute booth.

The Elastic Stop Nut Corporation exhibit.



Discussing one of Ladish Company's valves.



HENDRICKS CLUB MEETING

Past officers of the Association, now "fallen pillars," find solace in good fellowship and welcome the retiring Executive Committeemen to their membership.



MASTER OF CEREMONIES Art Hopcraft, Cleveland, got through his address with the assistance of an able staff of Sergeants-at-Arms.



PAINLESS EXTRACTION. Squires Lee Clayton, Cincinnati, and Herb Gaston, Baltimore, guard the portals and collect dues from Harold Macintosh, New York.



PACIFIC COAST EX's at Atlantic City. Stan Ringheim, Seattle, and George Aljian, San Francisco.



WELCOME TO THE FOLD. Aspirants Charlie Wilson, Dallas, and George Brown, Rensellaer, of the entering class, with Cork Corcoran, Louisville, and Ollie Williamson, Jacksonville.



CLOSE HARMONY. Bill Hunt, Providence; Chris Christensen, San Francisco; Chet Ogden, Detroit; and Ralph Keefer, Pittsburgh.

THE PATRON SAINT. Ernie Hawkins, of Wilmington and Washington, chats with Founder E. B. Hendricks, in whose honor the Club was named.



GROUP AND PANEL MEETINGS

GOVERNMENTAL AND INSTITUTIONAL BUYERS GROUP. J. H. Corcoran, Cambridge, Mass., discussion leader, and J. W. Hughes, County of Los Angeles, Group Chairman.





ADDED ATTRACTION. Col. G. S. Brady was called up from the audience to give his views on the metal markets.



JAMES CLARK McGUIRE, Port of New York Authority, was elected Chairman of the Governmental, Educational, and Institutional Buyers Group for the coming year.



STANDARDIZATION can be fun! E. H. ("Buck") Weaver of Los Angeles, Committee Chairman, and Lee Forker, Oil City, Pa.



PORTION OF THE PANEL that discussed the situation and outlook in non-ferrous metals.

ROUND TABLE of experts on inflation and controls. There wasn't time for the round table to go around.







PULP AND PAPER MANUFACTURERS GROUP was addressed by Vice President J. V. Spachner, Container Corporation of America. With him on dais are C. S. Maddock of Hercules Powder Company and W. D. Jackson, Group Chairman.



CHEMICAL GROUP MEETING. The speaker is N. W. Faust, The Texas Company. Others (l. to r.) G. H. Reiner, Abbott Laboratories; James R. Osborn, Sharples Chemicals, Inc.; and Chairman John J. Noel, Culligan Zeolite Company.

WOMEN IN PURCHASING

Now a permanent feature of the convention program, the Women in Purchasing session again demonstrated the active and important contribution this group is making to association work. Panel subject this year was, "Training in Purchasing—On the Job vs. Formal."



Two Northern California members, Mabel Smith, County of Alameda, Oakland, left, and Etta G. Herman, Herrick Iron Works, Oakland, right, with Elsie B. Gruber, chairman of the session.



From Chicago came: front row, l. to r., Florence M. Hayes, Helen D. Hoffman, Alice Rowbotham, Catherin A. Keane; back row, l. to r., Annette O. Schmidt, Clara L. Pieper, Ruth Dux, and Irene E. Lotito.



Washington, D. C., was represented by: front row, left to right, Helen L. Schofield, Mary M. Quien, and Virginia Colvin; back row, left to right, Marie Smith, Elizabeth R. Reese, and Florence Mermes.



Taking part in the session were (front, l. to r.) Jeannette L. Troy, Cincinnati, and Vi Fogarty, Montreal; (back, l. to r.) E. C. Rick, Buffalo; Kathleen Engquist, Watertown, N. Y.; and Frances Humphreys, Cambridge, Mass.



Women members of the New York Association at the session were (l. to r.) Anne Repko, Austenal Laboratories; Elsie B. Gruber, Bigelow-Sanford Carpet Co.; and Christine M. Caprio, Eagle-Picher Company, Orange, N. J.



WORLD PREMIERE of the new motion picture "Industrial Purchasing" was a feature of Wednesday's educational meeting. Standing by one of the announcements are Burdon Lowe of Naugatuck and Fred Frohn of Waterbury, Conn.



"JOHN MONROE of Northern Freezer Company" was central character in the dramatic portrayal of a modern purchasing department in action.



GEORGE ALJIAN, retiring after five years of outstanding service as Chairman of the National Committee on Education, congratulates Stu Heinritz, Bob Morse, and Harvey Conover of PURCHASING Magazine for their part in making the new film available to the education program.

HOW MANY FILAMENTS in a coil of ⅜" nylon rope? 677 delegates guessed at the answer. Charles H. Fritz of Shallcross Mfg. Co., Collingdale, Pa., won the $50 bond offered by American Mfg. Co. for the closest estimate. His figure — 130,000; actual count — 132,192.



CONGRATULATIONS. Al Street of Jenkins Brothers, member of the Inform-A-Show Exhibitors' Advisory Committee, congratulates competitor Harry Burdorf of Lunkenheimer Company on his winning of the "most informative booth" award. ▼



PURCHASE FOR PROFIT issue claims attention of Lou Pochat and Lee Clayton, Cincinnati, as "Red" Smith, Fort Wayne, thumbs through its pages. ▶



NORTH-SOUTH-EAST-WEST

Purchasing people from all parts of the nation were on hand for the Atlantic City convention. Association headquarters rooms held open house throughout the three-day meeting.



SYRACUSE group was happy over Joe Austin's election as National Vice President.



RHODE ISLAND sent a large delegation.



LOS ANGELES Association members will be hosts for the 1953 convention.



CONNECTICUT was well represented.



LOUISVILLE delegation was headed by President Hoyt Pritchett (left).



FORD MOTOR COMPANY buyers from many of the branch plants took the opportunity to get together at Atlantic City.



SALT LAKE CITY took home the convention attendance cup—an old Utah custom.



ALABAMA BUYERS upheld the tradition of southern hospitality.

Keeping Pace With Purchasing Progress



President Ogden foregathers with some of his associates in the Public Utility Buyers group.

By Chester F. Ogden
Manager of Purchases, The Detroit Edison Company
President, National Association of Purchasing Agents

Keynote address at the 37th annual International Convention of the National Association of Purchasing Agents, Atlantic City, May 26, 1952.

THE topic—"Keeping Pace with Purchasing Progress"—could mean one of several things. It might be interpreted that purchasing techniques are progressing so rapidly that the other members of management would have to keep on their toes to stay with purchasing executives. This is a good interpretation (from our standpoint) but might not be understood by our colleagues at home. You might also say that the title implies that, as in a race, some are "setting the pace" and the rest of us are falling behind and need to pick up speed to stay along with the leaders.

However, I would like to give the subject a little twist, and to take a look with you at a foreign interpretation of purchasing, to show how purchasing techniques might degenerate in a totalitarian economy like that of Communist Russia. This is for contrast, to show that we in this country are still making progress.

Let's take a make-believe tour, and assume that I am waiting in an outer office.

Purchasing—Soviet Style

The door I am facing gives the following information: *M. A. Krazkov, Deputy Commissar for Purchases, Central District, U.S.S.R.* I am the Purchasing Delegate from the Central Bureau of Purchasing assigned to the Kovida Manufacturing Works in Moscow. I have been ordered to appear before Deputy Commissar Krazkov because the quality of a certain steel used in the product we have been furnishing the Russian Army has not come anywhere near meeting standards. The selection of steel at the time I ordered it was limited to three government steel mills. I had selected the best of the three, but knew at the time that the steel would not do the job expected of it. I had registered a complaint in a memo to Deputy Commissar Krazkov and had received a reprimanding reply. Now, I am being called in to account for the poor quality of our manufactured product.

After an hour's wait, I am ushered into Deputy Commissar Krazkov's office by an attendant whose uniform, severe hair-do, and absence of any make-up, raised questions in my mind as to her sex. I give a snappy salute and am ordered to sit down on a straight-backed chair, and the interview begins.

The Deputy Commissar first delivers an uninterrupted 15-minute lecture on the importance of maintaining rigid standards, pointing out the penalties that can be administered for failure to maintain them. I dare to make reference to my memo, in which I pointed out that the selections of steel from which I had to make a choice were all substandard. Krazkov promptly reminds me that it is treasonable to question the quality of materials produced by other governmental agencies.

Dropping any further pursuit of the problem of quality, I take the



Shopping for ideas, information and souvenirs among the Inform-A-Show exhibits.

opportunity to mention also that I had ordered 5,600 tons of this steel and had received only 3,100 tons. This had caused some problems. Among the most serious of these, in my mind, was the fact that when the monthly accounting statement came through for signature, it showed 5,600 tons ordered and 5,600 tons delivered. My refusal to sign the accounting papers had brought a reprimand which mentioned very serious consequences if said accounting papers were not immediately signed and returned to the General Accounting Office.

I remind Deputy Commissar Krazkov that the shortage of steel would lead to some very critical problems in the near future. This comment produces a long and violent tirade, in which Krazkov threatens to have me removed from my position and banished to a Siberian work camp if any further complaints are forthcoming.

There seems to be little object in continuing to cite any more specific problems. So I promise to see that the quality of the product is improved, even though I know that the improvement will have to come from some place other than the quality of materials which are apportioned from the government steel factories. After an uninspired salute, I am ushered out and return to my own office at the Manufacturing Works.

Back on the Home Front

Well, this is Chet Ogden speaking again—back here at the N.A.P.A. convention in Atlantic City, U. S. A. I didn't like my tour of duty in the U.S.S.R. Maybe the Russians call it progressive purchasing, but you and I know that there can be no purchasing progress without opportunity for individual initiative and business competition. That is why it is so vital for all of us to be alert to any trends which might destroy our American business system.

During this past year as N.A.P.A. President (and also as acting President of the Economic Club of Detroit) I have attended a great many dinner meetings, at many of which I have listened to speakers discuss the evils and threats of Communism. In most of these talks, two things impressed me:

1. Communism was a vague thing. Very few speakers told exactly what it was that they were warning us against. It was much like the "they" that all of us use so glibly in describing actions of others. When speaking of Government action, we are prone to say "they" issued such an edict or "they" did this or that. In fact, we often use the same "they" in describing our own company actions. We say "they" do or do not want us to do a certain thing, or "they" have established such and such a policy. Who are these mysterious people? I found the references to Communism to be generally in this same mysterious category.

2. Many speakers stressed the dangers of Communism without suggesting constructive steps that each of us, as citizens and business men, could and should take to combat these dangers.

Later, I am going to define Communism as I see it, and give you some concrete suggestions as to what we can do to combat it. I believe one of the great responsibilities purchasing men, along with business management, have today is to stop the inroads being made by Communistic influence in our free American business economy.

One of the best ways to keep pace with purchasing progress is to recognize the tremendous advantage of our traditional system of competition. As buyers, we can do more than anyone else toward protecting and maintaining this advantage. It is largely through our efforts that such a competitive system is maintained.

We all recall the report that Stu Heinritz made concerning the status of the British buyer, after his visit to England in 1949. We know that under the socialistic, controlled regime, the importance and authority of the buyer is reduced to such a degree that it is almost impossible for him to be more than an order clerk. None of us really know the actual conditions that exist in Russia, but I would be most surprised if my earlier example was not approximately correct and if some commissar didn't tell each industrial plant just what material it was going to get, from what souce, and at what time.

Under neither the British or Russian systems is there place and scope for a modern industrial procurement officer, because there is no incentive for getting the right materials at the lowest cost. In America we use the utmost of initiative and imagination because we have all the incentives of business management to preserve our free American competition.

Danger Signals

Let's take a moment to appraise our situation. Have we already suffered losses? As individuals, our standard of living is still high—we still have the right of a free vote, and there is some indication that people are becoming more conscious of the need to protect and exercise this right—there still is the Bill of Rights, which was written to preserve our individual freedoms.

However, on the negative side, increasingly high and almost confiscatory taxes are taking away our individual choice to spend, to save, and to invest. The average American's annual federal taxes are greater than his savings. We certainly have lost some of our traditional individual independence. People are becoming more and more inclined to lean on others—their neighbors, the companies they work for, and the Government—for security. Security, rather than opportunity, is becoming the watchword.

Another danger sign is the lessening of initiative. This is in part accounted for by the change in the philosophy of our Government, but corporations and employers are also partially to blame because of their

acceptance of a system of regimentation involving, among other things, a complex system of job classification which, in general, pays a man so much for the job he does, regardless of how well or how poorly it is performed. The higher producing worker lies down on the job because he sees less able workers getting the same pay. At the same time, the low producer has no incentive and thus makes no attempt to improve.

American companies are still out-producing the world, and are growing every year, under private management. Their profits are adequate, and the amount of invested capital is expanding. However, we can't ignore the socialistic inroads made by Government in business. Our freedom is being hampered by higher and higher taxes, controlled currency, material allocations, wage and price controls. Government administrative bureaus are run by non-elected officials, who make policy decisions against business. We have government entrance into the financing business and the insurance business, Government subsidies in agriculture, and Government expansion in the electric power business. These, and many other familiar examples, show evidence of how our business freedom is being curtailed. The list is expanding every day. And it gets us back to the question: What is Communism?

When we are told of the dangers of Communism, we are warned of two possibilities:

We might lose a war to Russia, whereby Communism would be forced on us by a conqueror. To forestall this, we are engaged in an armament program designed to make us so strong, militarily, that this cannot happen. I am sure we are all in favor of a military program that gives us this necessary protection.

More likely, there would be a slow revolution from within, whereby we would gradually lose our freedoms and drift into a Communistic state without ever really knowing what happened. This is the real danger. How far have we gone?

In contrast to the vague talks previously mentioned, I listened to an address by Ralph M. Besse, Vice President of The Cleveland Illuminating Company, in which he quoted directly from the sources. This talk so impressed me that, at the risk of making myself vulnerable to some Anti-Red investigating committee, I borrowed and read a number of books concerning Communism from the Detroit Public Library. Among these were "The Communist Manifesto" by Karl Marx, published in 1848, and "Imperialism" by Nikolai Lenin. From these books I learned a great deal more about the goals of Communism, and it is startling to see how far we have progressed toward them.

So that you may judge for yourself, let me review ten principles outlined in the "Manifesto":

1. *"Abolition of property in land, and application of all rents of land to public purposes."* Most of you have probably read the recent article in *Fortune,* in which it was pointed out that the Federal Government controls over one-third of the land in our eleven far western states. Also, you are all well aware of Government action with regard to rent control, housing, and crop control. With regard to this principle, I believe we are at least on the way toward reaching Marx's goal.

2. *"A heavy, progressive income tax."* From the very beginnings of our present Federal Income Tax law, passed in 1913, we are approaching Marx's goal in this respect.

3. *"Abolition of all right of inheritance."* Heavy inheritance taxes are a start in this direction.

4. *"Confiscation of the property of emigrants and rebels."* No comment.

5. *"Centralization of credit in the hands of the State by means of a national bank with State capital and an exclusive monopoly."* Various Government economic advisors have long recommended complete Federal control of credit. Recent disclosures of RFC activities also indicate the trend in this direction. Other Federal agencies dealing with loans and credit are likewise taking us along the road of no return.

Through these portals passed the most astute assemblage of concentrated industrial buying power in the world.



6. *"Centralization of means of communication and transportation in the hands of the State."* The Government technically seized the railroads of the country in August, 1950, and has officially been operating them since, up to a few days ago.

7. *"Extension of factories and instruments of production owned by the State."* This hits closest to home, for me. The Federal Government has been rapidly expanding its ownership of electric power producing capacity. In 1933 it owned less than 1% of the country's capacity; today it owns over 10%. Since World War II, it has spent or appropriated over $3 billion of taxpayers' money to expand Federal electric power production. But that's not all. The Government is engaged in many other manufacturing ventures, including fertilizer, rubber, building construction, chemicals, and shipbuilding, to name but a few. To this threat of Federal competition in business, you must add the Government's assumption that it can seize any industry if it deems it to be in the public interest, as has been done in the steel industry. Karl Marx would be pleased.

8. *"Equal obligation of all to work. Establishment of industrial armies, especially for agriculture."* No comment.

9. *"Combination of agriculture with manufacturing industries; gradual abolition of all the distinction between town and country by a more equitable distribution of the population over the country."* The realization of this accomplishment might well grow out of the nine great Valley Authority projects proposed by our Federal Government for the control of our great river systems. It is further stimulated by the fostering of huge tax-exempt cooperatives.

10. *"Free education for all children in public schools."* In Russia this means education in Central Government schools. We have free education in this country but, thank goodness, it is still provided by local communities. There is, however, a growing concern as to whether all education and research should be under the control of the Federal Government.

As I review these ten aims, outlined by Karl Marx, I believe we have traveled much further down the road toward Communism than

most people realize. I would not be surprised if we had exceeded Marx's fondest dreams as to what could be accomplished in the short time of little more than 100 years.

In Lenin's book "Imperialism, the Highist State of Capitalism" he points out that Capitalism leads to bigness, cartels, price controls, fictitious high profits, and to the detriment of the people as a whole. He also points out that the most effective way to destroy Capitalism is by the inflation of the currency of capitalistic nations. I don't have to review how far we have traveled the road of inflation, or how difficult it is going to be for us to stop.

A Good Buy?

In evaluating our present position, let us use standard purchasing technique and ask ourselves: "Is this drift toward Communism or Socialism a good buy?" If our answer is "No", we must then ask ourselves two additional questions: "Why is this happening?" and "What can we do to stop it?"

With regard to the first question, here are some of the basic reasons:

1. The administrative branches of our Government are becoming too strong, and have too much money to spend, and too much policy-making authority. The ease with which Washington issues a directive affecting the Nation is astonishing. You are all familiar with contradictory directives from separate administrative offices—or sometimes from the same office. The feeling of power that men get when they move into high political jobs is frightening.

2. The incumbent Congress is losing control over the country's purse strings. In the 1952 Federal Budget of $85 billion, previous Congresses have already committed about $45 billion. Once committed, it is practically impossible to retract; the best that can be done is a patch-work job of administering such expenditures.

3. Big Government is far bigger than so-called big business or big labor; small business and individuals are the losers.

4. Federal advisors, economists, lawyers, and planners have made the Federal system so complex and confused that even good administrators have had no choice but to go along with the plan of expanding Government control, or to quit.

5. Our political spoils system has filled many responsible appointive jobs with inexperienced, unqualified, irresponsible people. The American voters have lost control.

6. Individually and as businesses, we are all inclined to be selfish. We are too ready to accept special privileges — Federal grants of money, loans, low-cost housing, subsidies, etc.—when we think the other person—our fellow taxpayer, not us—is paying for them.

Now for the second question: "What can we do to stop our present drift toward the Isms?"

As businessmen, it goes without saying that we must keep our own house in order. We must be sure that we are looking out for the interests of our customers, stockholders, and employees, and are treating them fairly. We must offer an example of business statesmanship in our own communities as proof of the rightness of the system in which we have faith. If we find something wrong, let's lend our support as citizens to correct rather than damn it. Don't forget that our employees are our best allies if kept informed of the economic facts of the business of which they are a part.

Some of the most memorable—if not the most profound—convention deliberations took place in small informal groups away from the meeting hall.



It seems to me that the most important thing we must do is to ask ourselves: "How much Governmental aid should our business expect and receive?" I don't want to leave the impression that all Government aid to business is bad, but there is no doubt but that this aid must come from the general tax fund and can have no other result than to increase Government costs and power. Therefore, I repeat that each company should take another look before requesting Government aid, to see whether it is for the best welfare of all the people, or whether it is only a temporary selfish advantage that will lead us closer to more Federal control.

A Program for Purchasers

Finally, what should we be doing as purchasing agents?

1. You will recall that Lenin stated the most effective way to destroy Capitalism is by inflation. One of the strongest foes of inflation is competition. So it becomes mandatory that we do a modern procurement job. We must make cost analyses to be sure we are paying fair and reasonable prices. We must do a value analysis job to reduce the over-all cost of our company's product. In short, we must be doing all those things that distinguish a modern procurement job from an order placing activity.

2. We must work with Government buying agencies to guide them in doing a modern procurement job. Any dollar saved by any Government buyer is a potential dollar reduction in our tax burden.

3. As business leaders, we must become more active in national and local groups which have as their purpose the promotion of honest, efficient, and better Government.

4. As purchasing agents, we contact many people. Numerous people form a part of their opinion of our free enterprise system as a result of their contacts with us. Let's be sure we are always putting our good purchasing ethics to work, and be sure we do not employ any practices in our own operations that we condemn in others.

If, as good purchasing executives, we are keeping pace with purchasing progress, we are becoming a part of America's management team. As a member of that team, we have the key responsibility of doing our part to strengthen and maintain our free competitive business system. I urge that each one of us face the challenge of accepting this responsibility.

Status of the CMP Metals

STEEL - COPPER - ALUMINUM

I. Steel Industry Builds for the Future

By Hiland G. Batcheller, Chairman
Allegheny Ludlum Steel Corporation

Abstract of an address at the 37th annual convention of the National Association of Purchasing Agents, Atlantic City, May 26, 1952. Mr. Batcheller's remarks were made before the Supreme Court decision on the steel seizure was handed down, resulting in a work stoppage in the industry.

TODAY, we are producing over three times as much steel as Russia. We are again in a period of rearmament. Mr. Philip B. Perlman, the Administration's Solicitor General, was quoted recently as saying that 84% of our steel production was needed for military purposes. I cite that statement as an example of the misinformation that is so easily circulated by men supposed to know. Actually, not more than 15% of our current steel production is going into direct military needs.

The period of shortages in steel is definitely over. The so-called black and gray markets that existed in steel for an interim period have about disappeared. This means that production has been stepped up so far that our mills are now meeting demand. There are even some indications of idle capacity. The government is now raising restrictions on various steel uses which it had previously imposed, not so long ago. Our warehouses are reported to be bulging with such consumers' luxuries as refrigerators, vacuum cleaners, television sets, and washing machines. We are simultaneously producing the steel for the greatest expansion of industrial plant in our history, and we are certainly producing all the steel for military use for which there is any demand.

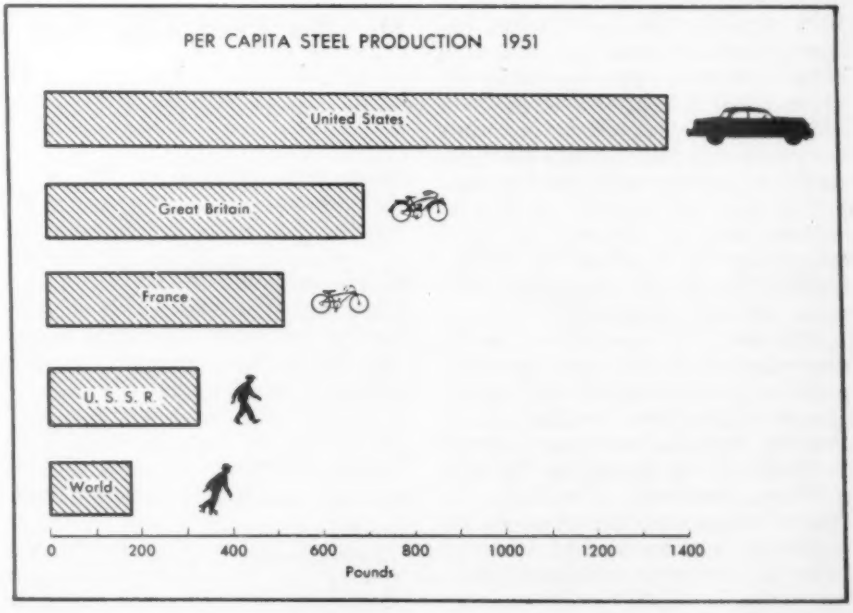
When some emergency need develops in our nation, as when we must quickly mobilize for war, there must be diversion of substantial steelmaking facilities to provide for all emergency requirements in the shortest possible time. Expansion of a great industry in a period of actual war is difficult, though we did add some 3 million tons of capacity in 1942-1945. Since then, as in the other too-brief periods between wars of this century, we have again been striking out boldly and imaginatively into the future.

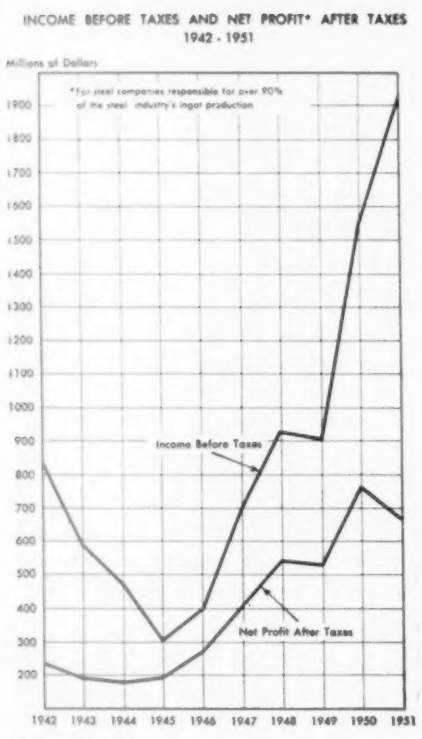
It is impossible for any one mind, or any central group of minds, to picture the complex of mines and furnaces and mills and transportation links used in producing 2 million tons of steel a week. No centralized political organization could ever have the knowledge to manage it efficiently. Over 200 groups of highly skilled managers, in charge of as many highly competitive organizations, operate the different parts of this extraordinary enterprise.

Since 1900, while our population has doubled, our steel capacity has been increased fivefold. We excel all other nations in our per capita steel production—a key to the uniquely high standard of living in America. Our steel capacity has furnished ample steel for defense in global war, without depriving the domestic economy of essential requirements.

The industry's wage level has advanced far more rapidly than the cost of living, whether you take 1939 as a base or the end of the war in 1945. The Federal tax load on steelmaking has now grown to such huge proportions that the government "take" amounts to about twice the industry's net earnings. Last

Source: Population. United Nations Statistical Office. U.S., Bureau of the Census, and Estimates Production. Iron Age, January 1952. U.S.A., A.I.S.I.





Source: A.I.S.I.

year steel earned less than 6% on its sales—well below the national average. Its low level of profit is actually inadequate for supporting the huge expansion program requested by the government and for paying a fair return on the capital invested by stockholders.

Until 1940 or thereabouts, an efficient steel company's profits fell below 10% on sales only when operations fell below 75% of capacity. The profit in the peacetime years before 1940 exceeded 6% on sales even with operations at less than 50% capacity. But in 1951, the industry averaged less than 6% in a period when it was operating at around 100% capacity. That is a low for such peak operations, and it can give us real ground for concern in contemplating what can happen to us when production volume declines. For no industry can logically hope to operate at 100% capacity forever. Furthermore, profit ratios are still declining.

The need for huge added investment continues. We are facing a problem in maintaining the supply of raw materials we require in increasing quantities each year to keep our furnaces in operation. We are spending hundreds of millions of dollars to open up ore deposits in Labrador, Venezuela, and Liberia. Other hundreds of millions of dollars must be spent in developing processes for the beneficiation of our own low-grade ores. We are having to work with lower grades of coal. Mechanized coal mining results inevitably in coal containing a great deal of debris, and its processing and cleaning are similarly adding to our costs.

Technically we shall have no difficulty in meeting our problems. But we do face a major problem in earning an adequate profit to support all this necessary new enterprise. No industry can remain an enterprise industry, can continue growth and expansion, if its costs are constantly forced up while its earnings are forced down.

The American system has worked so well because most Americans have regarded each other as moral human beings. Our nation was founded and developed by people who believed that a sound moral code was the foundation of everything else. Because we have had this kind of faith and trust in each other, we have been able to work together more effectively than any other people, anywhere. Hence our successful teamwork. Hence our great mass production that flowed from teamwork.

Today we are taking corruption in government as a matter of course. Millions of our youth are learning to say, "He got his—why shouldn't I get mine?" Various labor unions follow the pattern by making laws that forbid their members to do more than a minimum of work, while demanding ever higher maximums in pay. They even get government aid in demanding monopoly privileges. Government actually pays money to farmers for not planting things. It keeps the prices of some products down, by various controls, and gives a few favored groups effective price maintenance. It is constantly robbing Peter to pay off Paul—taking honey from the bees and giving it to the grasshoppers.

Unless we get back to the old moral concepts, and use them as a guide in our conduct toward each other, our teamwork and our material prosperity will decay together. One may not believe that widespread immorality will send a people down the road to hell, but it will certainly send them down the road to poverty. We are going to move down that road right fast if government continues to take out of an industry twice as much as that industry earns as a profit—and then pillories the industry as greedy.

We stand today just at the threshhold of some of the most remarkable technical progress yet seen in industry. Meanwhile, there are uncertainties that must be resolved. I am optimistic even about these. Our industry has expressed its polite regrets that it cannot accept Mr. Philip Murray's cordial invitation to go to hell. We already have some prior engagements and commitments—first with the boys in Korea, and then with all the other boys in America—boys in Detroit and San Francisco and Atlanta and Dallas and everywhere else —who want to grow up in a more wonderful world. We have a job too in trying to reach that goal, and we are busy on that job in the steel industry right now.

II. No Real Shortage of Copper

By Whipple Jacobs
President, Phelps Dodge Copper Products Corp.

Abstract of an address at the 37th annual convention of the National Association of Purchasing Agents, Atlantic City, May 26, 1952.

THE statistics on copper are a matter of common knowledge. For the five years 1947-1951 inclusive, the average tonnage of copper available annually was:

	Short Tons
Primary Domestic	879,860
Secondary Domestic	109,020
Net Primary- Unmanufactured Imports	374,370
Total (Avge.)	1,363,250

This average happens to be about the same as the 1951 supply.

For 1952 and the succeeding three years, we estimate the supply, based on new projects under way, will be:

	Short Tons	Increase over 1951
1952	1,530,000	11.6%
1953	1,660,000	21.0%
1954	1,690,000	23.3%
1955	1,855,000	35.0%

If historical comparisons carry any weight, this amount of copper could support a Federal Reserve Board index of industrial production of 270, an increase of 45% over the index figure for the first half of 1950. Barring strikes, war, or acts of God, these figures seem to be of reasonable expectancy.

Currently, there is an *apparent* great shortage of copper, and undoubtedly there is some *real* shortage. However, I feel that it is more apparent than real, for two reasons.

1. Copper is a world commodity. Today, due to government interference with the free market, there are at least three prices— the 24½¢ ceiling for domestic production, the 27½¢ ceiling for copper imported into the U.S., and a world price somewhere between 30¢ and 40¢. Whenever obstructions are placed in the way of free pricing of a commodity or, to put it another way, when the market is compartmented as these three prices do compartment it, it must of necessity create an unbalance in the supply.

2. Where we are operating under a system of allocation, everyone must also of necessity accept their allocation at regular intervals, whether it is immediately needed or not, for fear of not receiving in the future what they may need if their demand situation changes. This, I am sure, has resulted in *accumulation*. As proof, I can point to our own experience. A substantial part of our products are sold on returnable containers—spools and reels. The number of our spools and reels outstanding in the hands of consumers has steadily increased for the last fifteen months, and by a substantial amount, indicating that these containers are not being emptied promptly. In addition, in a number of instances, our customers have had to defer deliveries because their inventories have reached the maximum set by the government planners—necessarily an arbitrary figure applied to widely varying situations. This too creates an unbalance in the supply.

Price-wise, there are three points I want to call to your attention:

1. Copper is among the most volatile of metals. We have only to go back to March 1949, when another apparent shortage existed. But in a period of ten weeks, March 29 to June 17, the market declined from 23½¢ to 16¢, and government purchases for stockpiling fell off just as sharply as the requirements of private purchasers. In spite of the omnipotence of the planners, they did not foresee the quick turnabout that was to occur before the end of that year. In four months, from July 5 to November 4, the market recovered 2½¢, and in seven weeks in 1950 (pre-Korea), from April 17 to June 6, an additional 4¢. In a period of fourteen months, the price fluctuated downward 7½¢ (32%) and upward 6½¢ (40%).

2. Because of its wide price swings, copper has always been a tempting speculation for the buyer. Because all of us have a bit of the gambler in us, there has been a tendency to "take a flyer" in copper, for a thrill and for the hoped-for profit.

Back in the days when copper was sold at a firm price for 90-day delivery, I was always interested to note that purchases on a rising market tended to increase geometrically as the price went up. A ¼¢ advance might mean booking of a million pounds for the next 90 days. Two weeks later, another ¼¢ rise would bring in bookings of two million pounds; and within 30 days of the first advance a still further advance would increase bookings to as much as 3 million additional pounds. I do not believe the foreseeable demand had increased in that amount, in such a short period, but the fact that the market was on the increase made for larger and larger commitments.

These buying waves, taking the country as a whole, meant that the largest tonnage was booked at the highest price. Then when buying dried up and the market started to decline, these commitments had to be worked off over a substantial period of time and almost invariably at a loss before additional buying came back into the market. I firmly believe that our present policy of selling at price in effect at time of shipment can ensure a more healthy market.

We used to talk about the supply of copper above ground as repre-

(*Please turn to page* 318)

III. Broadening Markets for Aluminum

By I. W. Wilson
President, Aluminum Company of America

Abstract of an address at the 37th annual convention of the National Association of Purchasing Agents, Atlantic City, May 26, 1952.

JUST in the past 13 years, we have had vast increases in our primary metal capacity. But despite them, supply of aluminum has never quite caught up with demand for it throughout this period.

High point of World War I production was 64,930 short tons of primary metal. In 1934, almost midpoint of the depression, production slipped to 37,088 tons. Five years later, in 1939, we had become convinced the world was being drawn into total war. We knew aluminum would have a key role, and we set about to increase our capacity.

Before the attack on Pearl Harbor, Alcoa had under way a $300 million expansion program. It was this project which helped provide the aluminum for an almost overnight expansion of our Air Force in the early days of World War II. In addition to the program we financed with our own money, we built $450 million worth of aluminum facilities for the government's Defense Plant Corporation—without fee or profit to us.

In 1943, total U. S. aluminum production was 920,179 tons, nearly six times what it had been just four years before. After V-J Day, some of these war-built smelting plants had to be closed down because they depended on electrical power too expensive for normal peacetime production. Other of the plants were turned over to competitiors.

All of this war expansion, plus return of scrap from the war machine aluminum helped build, produced a temporary pessimism in some circles after the war. There were those in high places who believed that postwar civilian markets could never absorb the product of all the aluminum capacity added to meet war demands. It didn't turn out that way. Both the capacity and the scrap were absorbed, and demand kept abreast or ahead of supply.

Between V-J Day and June 1950, Alcoa embarked on another self-financed $270 million program. Total production rose to 354,000 tons in 1950. After we became in-

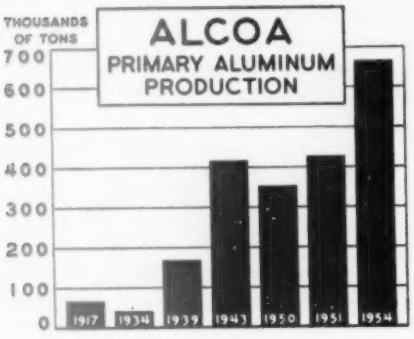


CHART A

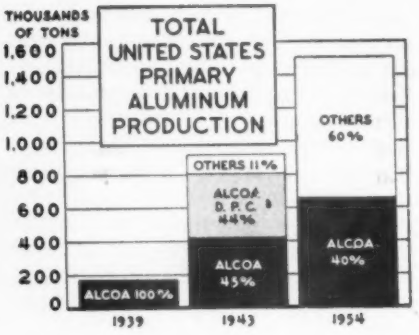


CHART B

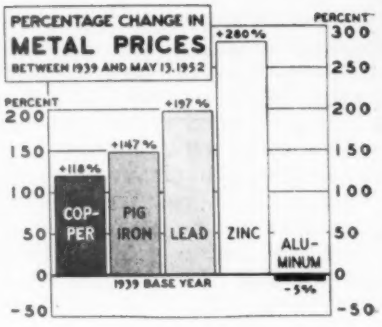


CHART C

volved in Korea, the government asked for even more aluminum capacity. Again, with our own money, Alcoa set out on a vast plant building program, our third in 12 years. This program is costing us $350 million. It will provide Alcoa an adtional 205,000 tons of primary metal capacity, 55% more than we had immediately before Korea. Some time in 1954, our company alone will be capable of producing 650,000 tons of primary aluminum annually.

Our expansion is only part of the story. Our competitors have undergone similar expansion in their relatively short careers in the aluminum business. Under normal conditions, Alcoa will have about 40% of U. S. primary capacity. The remainder will be divided roughly as 28% for Reynolds, 27% for Kaiser, and 5% for Anaconda.

To build this capacity, Alcoa will have invested close to one billion dollars since 1939. Because of the inflation this country has experienced, especially since Korea, we have met sharply increased costs of construction all along the line. This means that just to break even, we must operate at a higher rate of capacity than we ever have before. When you increase your fixed costs of production, your profit margin becomes smaller unless prices are increased. This situation is common to many businesses which have had to expand under inflationary costs of construction. We are now facing our greatest sales challenge. We have to produce at the highest level of operations possible, and we have to sell that production. We are confident that we can maintain an adequate level of business. There are five main reasons for this confidence:

1. Aluminum today sells for 5% less than it did in 1939. Competitive metals sell at prices from 118% to 280% above their 1939 levels.

2. Our capacity has grown large enough to supply future aluminum markets whose volume demands should show tremendous increases. These include the building, transportation, and electrical fields, and many others.

3. Since 1939, many technological problems in the use of aluminum have been solved, particularly in the fields of alloys, finishing processes, and joining methods.

4. World War II produced a great new pool of aluminum know-how. War demands trained designers, engineers, and workmen in the use of aluminum.

5. While some of the competitive metals are faced with increasing scarcities of their basic ores, aluminum is up against no such problem. It is assured of an adequate ore supply close at hand, both in the United States and in nearby areas.

Wider Range of Products

Along with the growth of primary metal capacity, we have kept pace in our fabricating divisions. This means a wider range of better products.

For example, a new 15,000-ton forging press at our Cleveland Works will produce more rapidly and economically large items for the aircraft industry, and will increase the life of forging dies from 100% to 600%.

A 13,200-ton extrusion press now being installed at our Lafayette Works will enable us to make extruded shapes weighing up to a ton or more, reducing time and production costs of both military and civilian products.

In the impact extrusion field, we are now able to achieve tolerances of plus or minus five-thousandths of an inch. The ratio of length to diameter has been extended from 7-to-1 to 16-to-1.

We have developed an alloy 10% stronger than those used in World War II aircraft. Another new alloy, with good strength and ductility after welding, is especially adaptable for use in pressure vessels.

We were the first to roll commercially in the U. S. longitudinally tapered sheet and plate for aircraft wing surfaces.

Last year, expanded aluminum cable, steel reinforced, went on the market. A result of 20 years of research and experiment, it fills the need for large diameter cable using as little metal and weighing as little as possible.

Aluminum for P. A.

These developments are not just shots in the dark. Behind each of them are years of research, engineering, and experiment. Research has been one of the greatest single factors in the growth of the aluminum industry. Alcoa spends an average of $7 million a year on research and development; we consider it an amount well spent.

We realize that many of you are not getting as much aluminum as you would like to get. You are not getting as much as we would like to provide you. But who gets what, these days, isn't decided by us.

Right now, the aluminum supply situation is being readjusted slowly, and is still unsettled. Those in charge of our military preparedness have elected to stretch out our rearmament program. It would seem that the tonnage they originally planned to consume and the tonnage they actually take now should be made available to the civilian market.

We have recommended very strongly that this be done — that controls be eliminated by the end of this year. Even though the short-range supply picture could stand improvement, the long-range outlook is good—very good. Let us hope those in charge of deciding how much aluminum we can sell our customers will act quickly. We want to deliver metal to our civilian customers as soon as we can.

CAVEAT EMPTOR!

By H. Thomas Austern, Covington and Burling, Washington, D. C.



Address at the 37th annual convention of the National Association of Purchasing Agents, Atlantic City, May 27, 1952

BACK in 1936 when the Robinson-Patman Act was passed, few businessmen appreciated its coverage. It had been pressured through Congress by wholesale grocers. Some thought it limited to the grocery trade. Others believed it would have impact only on the pricing of goods sold in finished form for direct resale.

Though at the time few people realized it, the Robinson-Patman Act also included a short provision on the *buyer's* responsibility for taking an illegal price. This was considered, however, to be of very minor importance. It had been added largely as a Congressional afterthought.

Yet it is that cloud, which in 1936 looked no bigger than a man's hand, that has today perhaps come to darken your entire horizon.

The original and erroneous impression of the American businessman that the Robinson-Patman Act covered only groceries or goods sold for retailing should by now be thoroughly dissipated.

For the past sixteen years, despite the prolonged prevalence of a sellers' market, have made clear the ubiquitous reach of this law against price discrimination. It has immediate and comprehensive effect upon every sale in interstate commerce. It is not limited to monopolies or to those who conspire to fix prices. It has impact, in the form of a Trade Commission proceeding or a treble damage suit, upon every business, large or small, wholly apart from its size, its relative position in an industry, the importance of the products it buys or sells, or whether the goods are sold for resale or for use in further manufacturing.

Primarily, and until recently, Trade Commission enforcement concerned sellers. Up to 1950 there had been only a few complaints against buyers, usually in uncontested cases. Little attention was paid to the provision of the Robinson-Patman Act that, for the first time, had created *buyer* responsibility that made it unlawful for a purchaser "*knowingly* to induce or receive" a *prohibited* "discrimination in price."

Those who bothered to examine that provision covering buyer conduct thought it clear, and possibly applicable only to extreme and unusual situations.

For on its face it required that two conditions be met: First, that the lower price received be in fact unlawful. Second, that the buyer know of the illegality.

If you looked back to what Congress had said, the buyer provision appeared largely designed to be a defensive shield for a small manufacturer in dealing with large chain store buyers. It would enable the small manufacturer to tell the buyer who insisted upon an illegal concession that the law was being violated and thus make the buyer equally guilty.

Except in these rare cases where the buyer coerced or browbeat a seller into giving him an inside price, that obviously never could be justified by cost or competition, it seemed that those whose daily job it was to purchase materials were not required to underwrite the seller's honesty and legality. The buyer was not required, at his peril, to pass judgment as to whether the supplier was meeting the broadly applicable but vastly complex requirements of the Robinson-Patman Act.

None of you imagined that whenever you bought goods you were always buying a potential prosecution. Most lawyers advised their purchasing agent friends that the law required merely a rule of good faith and prudent conduct. Despite our normal instinct to hedge, we were ready always to say that where the buyer in good faith asked the seller whether the price was legal and was assured that it was, in a situation where there was no reason for disbelief, the buyer was fully protected against any charge of violation.

Unfortunately, it now turns out that we were wrong, that this rule of good faith conduct on the part of a buyer is not enough, and that whenever any of you take a price lower than you know another fellow is getting, you will be in grave legal peril.

Today the Trade Commission firmly insists that no distinction between a buyer and a seller can be made. As a buyer, you may always be presumptively a law-breaker whenever you take a lower price than others are charged.

In short, the Commission interprets the law today to put the buyer in the seller's shoes. To understand your new position—to perceive how awkwardly you stand—and how difficult it may now be for a buyer to walk a lawful path—let us first see how these Robinson-Patman Act shoes have been fitted to the seller of goods.

In the first place, almost all lawyers—and by their express admission many courts—do not know what the Robinson-Patman Act means as applied to many common selling practices. Its broad reach is matched only by its incredibly inept drafting. Of its language, one judge informally remarked, "The damn thing doesn't even parse." In interpreting that language, the Commission has wobbled from confused certitude to crystal clear confusion.

Even today—on the selling side—there are vast areas of argument about functional discounts, goods of like grade and quality, comparable transactions, freight equalization, and the good faith meeting of competition.

In short, for the seller to know when and whether his prices and pricing practices are lawful is not easy for him or for his lawyer. The penalty of error is a Commission complaint and a cease and desist order—or a costly treble damage judgment.

Primarily, these difficulties flow from what the Commission and the courts have done to the law. Fifteen years ago you might fairly have been told that the Robinson-Patman Act, despite its ambiguities, would be applicable only where a discriminatory price substantially hurt another fellow, and that even where it did, there were available clean-cut justifications such as cost savings or meeting competition.

It is perhaps important now for you to know how this has come to be changed.

To begin with, not all price differences for the same goods were made unlawful. The basic idea was that only those price differences that *may* substantially injure competition could be challenged. That requirement may have been eroded by the Supreme Court in the *Morton Salt* case, and much debate continues as to whether competitive injury need be merely "possible" rather than "probable."

But for the Federal Trade Commission this requirement of competitive injury is wholly academic. It deals in inferences and presumptions. If a man sells the same product at different prices, in competition with another seller, or to customers who compete with each other, the Commission simply *presumes* that competition will be injured. All price differences, therefore, become presumptively unlawful.

But presumptions of illegality are a novelty. To say that different prices given to competing customers are always presumptively illegal is a drastic rule indeed.

There is no use in objecting that on this basis every published quantity discount becomes presumptively illegal. You will find only administrative agreement that it does.

For as against a seller, the Commission has made its position clear: A different price to two competing customers, or where the seller is competing with anyone else for the particular business, is enough to *presume* competitive injury and unlawful pricing. It is then up to the seller to disprove the presumption, to prove that none of his competitors, and no competitor of the favored customer, could have been economically injured.



George Aljian, San Francisco, and Bruce Henderson, Pittsburgh, were pleased with the convention.

Indeed, in a pending case to be argued in the Supreme Court next Fall the Commission appears to be contending for an even more drastic rule. It argues that where there is substantial difference in price the presumption that competition may be injured can never be rebutted, that "such discriminations perforce injure competition."

Of course, in most cases proving a negative, establishing that a basically undefined effect is impossible, is beyond the competence of most mortals. The net result is that the element of competitive injury has substantially been read out of the Act. The seller must look elsewhere in the law, must seek to prove that his price differences were cost justified, or had been given in good faith to meet competition.

While I briefly recite the seller's troubles in attempting to show these justifications, please consider whether you as buyer might have even a more difficult job in doing so.

As to cost justification, the statute provides that price differences can be justified by the seller's showing that they make only due allowance for savings in the cost of manufacture, sale or delivery. To take a random example, if one buyer purchases a product boxed and another takes the same product in unpackaged form, the price to the bulk buyer can reflect the saving in packaging costs.

Superficially, it might appear relatively easy to show cost justification. In actual practice, under the principles laid down by the Commission, for a seller to show cost justification is a long, arduous and expensive task. Some years ago it was aptly termed a trial by the ordeal of cost accounting.

Cost accounting, particularly distribution cost accounting, is not a fully developed science. Even after months of work by the seller's accountants, the Commission accountants may insist, and the Commission agree, that entirely wrong theories of allocation were employed. In one case the needed cost study took eight outside accountants and a company staff nine months—comprehended manufacturing costs, number of invoices, lines per invoice, branch office costs in five cities, deliveries, warehousing—all of which ended on IBM cards for a 100-page cost report, that the Commission finally rejected. Often it is doubtful whether a seller can, with precise exactitude, ever know his selling costs.

As to meeting competition, the Commission, as you know, fought to the Supreme Court its insistence that a seller should not always be permitted in good faith to meet competition. That view was rejected by the Supreme Court in January, 1951, in the *Indiana* case. But only last month the Commission announced its further view that anyone who meets a lower price given by everyone else, or does so regularly over a period of time, cannot ever be acting in good faith. Even on this defense of meeting competition—so vital to any concept of a truly competitive economy—sometimes you see it, more often you cannot. Congressional efforts to clarify the confusion, to enact the good faith rule of the *Indiana* and other cases, appear to be stymied.

Few sellers can afford or survive the ordeal of justification by cost accounting, and even those who make this venture can never know until the end of a prolonged proceeding whether they have been acting legally or illegally. One who seeks lawfully and in good faith to meet competition may, at this time at least, encounter only legalistic confusion.

As to whether a purchasing agent *knows* he is getting a different price, realism suggests that he always will know that much. If he is knowledgeable about the market—if he has canvassed all available sources of supply—if he is reasonably informed—in short, if he knows his job—he will know fairly closely what he is paying compared to others. If he takes advantage of an available volume discount, he necessarily knows that he is paying less than others buying smaller quantities. Only where the seller adheres to a one-price policy would a purchasing agent be assured that he was paying the highest price paid by anyone else.

But the buyer usually does *not* know the seller's detailed costs—of manufacture, selling, and delivery. These are closely guarded in most businesses. They vary from time to time. At best the buyer knows the practice of the trade, the range of discount feasible, the scope of saving possible. Even more important, he should be permitted to rely upon his seller's honesty and not have to underwrite the legality of another man's activities.

Hence the reasonable operating rule was thought to be that the buyer would be guilty only where he knew or should have known that the lower price was in fact unlawful. This seemed to be what the law plainly demanded—knowledge of a *prohibited* price discrimination.

Moreover, this rule of the "reasonable and prudent businessman" conformed to the legal precedents, and fitted all analogies in commercial law. These universally recognized that trade and commerce could not long survive—in a complicated and integrated economy—if one had to be absolutely certain that another fellow was acting lawfully before dealing with him. Everywhere there was a demonstrated unwillingness to hamstring commercial dealing by requiring more certainty than good faith, reason, and prudence can produce.

Undoubtedly, you are all familiar with the most recent example where last July your Association got an OPS ruling that a buyer acting reasonably and in good faith is not responsible for ceiling price violations—because, the OPS recognized ceilings are often based on labor or material costs "beyond the knowledge of the buyer or purchasing agent."

Thus on language, logic, common sense, precedent, and analogy—lawyers advised their purchasing agent friends to follow this rule of good faith and prudent conduct.

We thought it reasonable. Reasonable, perhaps to us, but utterly wrong, said the Federal Trade Commission in 1950, and the Federal Court of Appeals in Chicago agreed with it in 1952.

The decision was that all of the presumptions of illegality, and the burden of proving the seller's cost



Herb Layport, Worcester, Mass., shows Mrs. Layport his article in the May issue of PURCHASING.

justification, apply to the buyer precisely as they apply to a seller. If the buyer takes a lower price, he acts at his peril. A Commission complaint, or perhaps even a treble damage suit, can be instituted against him.

If it turns out that the seller was pricing in violation—if the buyer cannot get the seller to produce his cost accounts to permit the buyer to disprove the presumed illegality—the result is an order.

That order blanketly prohibits future buying at any price lower than the price given any competitor, or given to anyone else where the supplier competes with another supplier for your business.

Under the Patman Act the Commission says it cannot distinguish between a buyer and a seller; it perceives no difference in what the buyer or the seller should know about the seller's pricing and costs, it has no difficulty in requiring that the buyer act at his peril and be required to underwrite the legality of what the seller charges him.

Let me briefly tell you how the Commission got there.

It brought a complaint against the *Automatic Canteen Company*, a large lessor of vending machines, that also sold the vending machine merchandise to its lessees, charging that it had induced and received unlawful price discriminations from about 80 candy manufacturers.

The buyer insisted that the Commission prove that the lower prices were not cost justified, that they were unlawful in fact, and that it would be impossible for him to produce 80 suppliers with their books and records.

The Commission held, however, that all it had to prove against the buyer was the receipt of a lower price, that it could infer and presume competitive injury merely because the buyer refused to purchase from other fellows charging higher prices. It ruled that the buyer had to bring his sellers into the proceeding or in some other way prove cost justification.

This the buyer refused to do, and stood on the words of the law. Accordingly, the Commission issued its order prohibiting that buyer from knowingly taking any "net price" lower than the seller was giving other customers, whenever either the seller or the buyer was competing with others.

The order went on to provide that the buyer could, if he were able, show compliance by himself proving in the future, to the satisfaction of the Commission, that the seller who supplied him had cost justification for any lower price.

The new rule is absolute: Knowledge means knowing only that you are paying less than a competitor, as anyone taking a volume discount would know. Everything else automatically follows to make you guilty, unless *you* can *prove* your seller's costs or *his* good faith in meeting competition.

Since an order cannot exceed the statute, this means, of course, that the same rule applies in determining violation in the first place. A buyer taking any lower price now acts at his peril and must be prepared to defend what the seller is doing.

The Commission, of course, is not the last word. There are the courts The buyer-respondent appealed. Others joined and urged that the rule of the reasonable businessman be announced, that if all of the legal mumbo-jumbo of the Patman Act were thus applied to buyers, the results would be far-reaching in the important field of purchasing, that the idea that a buyer must know his

seller's exact costs or else act at his peril was fantastic, and that the Commission's interpretation was wrong and, if followed, would hamstring trade.

All of this was unavailing. The court treated the problem as a technical question of the burden of proof. It told the buyer he could not complain about the burden of justifying what his 80 sellers had done, because he hadn't tried. When the buyer later asked to present evidence that the job was impossible, he was told that he had elected his theory of not trying, and was stuck with it.

By thus using judicial blinkers, and relying on this ground that the buyer was precluded by his own theory, the court upheld the Commission without ever really facing up to the basic issue of the application of the reasonable buyer rule of good faith. All that touches on that question in the opinion is a very short dictum.

I am not wholly clear about what it means but I give it to you. Said the court:

> "It is no doubt true that it is more difficult for a buyer to establish his seller's cost justification than it is for the seller from whom he bought. But we cannot say that it is unreasonable or arbitrary to expect a buyer who induces *or knows* he is receiving prices substantially lower than his competitors to make some good faith effort to ascertain that such lower prices are justified by lower costs in the sales to him. Nor can we assume that the Commission will be so arbitrary or unreasonable as to the quantum of proof required of the buyer . . . as to deprive him of due process."

Like most legal talk, this means what you want to make of it. Given proper effect, it might mean that the courts will recognize prudent, good faith action by a buyer as a defense. But do not assume that the dictum means you can satisfy the Trade Commission merely by asking your seller and being told by him that his prices are lawful. For even after the court spoke, the Trade Commission reiterated its view that "where you have knowledge of the discriminatory nature of the prices" you are guilty irrespective of any assurance given you by a supplier. For the Commission, a price difference remains presumptively, always an illegal price discrimination.

Next Fall the Supreme Court will be asked to review this new interpretation that whenever a buyer takes a lower price—and merely knows that it is lower—he always hazards a lawsuit in which he can be held guilty unless he can prove the legality of his seller's conduct. The Supreme Court may measure whether there is any difference between what the seller and the buyer knows about the seller's costs. Perhaps, too, it may find an analogy in Holmes' observation that no rule of law; not even the suffrage amendment, can obliterate the difference between a man and woman.

In another case now pending, the buyer has asked the Commission to permit him to bring marketing experts to prove that a buyer does not know—and cannot know—enough about his seller's costs to determine legality, and that it is unreasonable



C. A. R.
the man everybody knows.

to hold him to this rule. Whether the Commission will listen to this argument—will revise its theories—is not yet known.

Nor may you assume that these two pending cases are isolated instances. Other identical complaints have issued and like orders entered. True, they have by and large concerned buying of goods for resale. But logically—and in the Commission's view—the same rule applies to the purchasing of raw materials for manufacture, of components, and of supplies for industrial consumption. The history of Patman Act enforcement is the story of rules evolved on goods sold for resale applying with equal force to commodities sold for manufacture.

It is, therefore, no exaggeration to say that this new concept that you buy at your legal peril applies almost universally to the purchasing activities of every man in this hall.

Why, you may finally ask, are such weird rules evolved to plague your daily job?

The only explanation I can give you is that the Trade Commission and its staff are obsessed with the force of price alone. In their view, price alone determines and almost solely motivates business conduct. They believe sincerely in what they call the principle of indifference, that on like goods at the same price, a seller is utterly indifferent as to who purchases his wares, and a buyer equally indifferent as to the source of his supply.

As a corollary, they are convinced that any change in price among sellers will always shift the business.

Of course, if that is really true, a great deal of good liquor has been poured out by some salesmen to no useful purpose.

Yet wholly foreign, perhaps, to many of these administrative folks, is any understanding of the purchasing agent's job, of his responsibility for keeping the factory wheels turning without hazardous inventory risks, of his necessary interest in quality, in dependability of supply, in timely service, and, of course—but neither cardinally nor solely—in economical cost. The N.A.P.A. Handbook and your Association's Bulletins ought to be—but alas are not—required reading for the Commission and its staff.

Because of that obsession with price alone, because they seem to believe that only one-price selling is fair and holy, Trade Commission people have a basic suspicion of anyone who obtains a lower price. Doing so is thought reprehensible, and they are not loath, but enthusiastically willing, to urge that any buyer who does not pay the highest price, in the words of the Commission briefs, "takes the risk" of violating the law. He must be certain of his seller's costs. He invites a complaint, and must meet the presumption of illegality.

No longer is the buyer, or the man from whom he got a lower price, presumed to be innocent until proved guilty. The lower price alone supports against either the presumption of illegality.

Whether the Supreme Court will countenance this new rule, or even whether the Supreme Court will be willing to review the case, one cannot predict. If the rule is sustained to become the law of the land, the practical consequences are primarily for you to forecast.

Perhaps in the end—as Plato said of philosophers and kings—all purchasing agents will have to become lawyers, or only lawyers be permitted to serve as purchasing agents. Either prospect is awesome to contemplate.

31st annual meeting is held at Washington

Better Buying is Theme of N. A. E. B. Conference

Reported by A. N. Wecksler

Reflecting the marked improvement in supply of materials and equipment, major emphasis was on techniques of purchasing during the sessions of the National Association of Educational Buyers at their 31st annual convention in May at the Shoreham Hotel in Washington, D. C.

Attendance totaled 311, representing 197 institutions. The subject matter of the discussions and the general interests were in sharp contrast to the 30th annual convention, which, although it was held in Detroit, was focused mainly on Washington and the various Government controls affecting supply of materials. This year, with Washington, D. C., as the meeting place, the interests of those attending the convention was mainly on "how to do things better", rather than on "what the Government will permit me to do."

There was no indication that scarcity in supply was a problem for PA's in the institutions of higher education, but individual purchasing agents attending the meeting expressed themselves as being cautious in their buying up to now, in anticipation of a drop in prices. Those who expressed past caution indicated that perhaps they were wrong, and that an upward trend could well develop toward the latter part of this year.

The relaxation of construction controls solved some of the more pressing of the shortage problems for educational institutions.



President-elect

Kermit A. Jacobsen, Cal. Tech., was chosen to lead educational buyers in 1952-1953.

Registration of the convention delegates began on the evening of May 6, and the actual sessions of the national meeting began the next morning with the annual business officers conference. L. H. Foster, Business Manager, Tuskegee Institute, presided at this conference, with J. B. Deisenroth, Business Manager, Pasadena College, speaking on "Balancing the Institutional Budget Today", and Charles Hoff, Financial Vice President, University of Omaha, speaking on "In-Service Education for the Business Department".

Out-going president Jamie R. Anthony, Controller, Georgia Institute of Technology, presided at the first luncheon session of the convention.

Ernest V. Hollis, Chief of College Administration, Office of Education, F.S.A., welcomed the delegates to Washington, and Irwin K. French, Business Manager, Middlebury College, spoke on the subject of improving public relations within institutions, and relations between the institutions and the towns and areas in which they are located.

Mr. French pointed out that townspeople often are antagonistic toward schools and colleges which do not pay taxes, but do require a considerable amount of services for which the townspeople are taxed. To offset this reaction, he suggested that institutions undertake to support some of the services of which they are the direct beneficiaries, and that college personnel make it a point to mingle in the community and take part in civic functions.

At the afternoon session, J. A. Pond, Director of Purchase, New York University-Bellevue Center, spoke on "A Member's Eye View of NAEB", and Executive Secretary Bert Ahrens conducted a question-and-answer session on commodity problems.

That night, convention delegates attended a traditional "Get Acquainted Buffet Supper", with the Brass Ensemble of the Catholic University of America, providing the entertainment.

On Thursday morning, W. B. Foulk, Director of Purchases, Princeton University, opened the session with an address on "Institutional Procurement under Government Regulations". Mr. Foulk stated that, contrary to predictions a year ago that this would be the period of greatest scarcity of materials and goods for civilian consumption, materials are coming into better supply.

He pointed out that several months ago it became apparent that the period of materials shortage was coming to an end, and that the Government was faced with the choice of scrapping the detailed CMP controls program and substituting a military priorities system, or holding the controls program intact as a standby and merely relaxing the degree of control as materials availability improved.

Mr. Foulk stated that "the offi-



Executive Secretary Bert C. Ahrens and Executive Committeeman John A. Pond, N.Y.U.-Bellevue, check conference attendance figures, which were among the best in the 31-year history of the Association.



Maine to California

Incoming Executive Committee of NAEB has coast-to-coast representation. Standing: Kermit A. Jacobsen, Cal. Tech.; John A. Pond, N.Y.U.-Bellevue; Henry L. Doten, U. of Maine. Seated: D. R. Kimrey, U. of Oklahoma; Forrest L. Abbott, Teachers College, Columbia U.



Supplementary Reading

Convention speaker invited delegates to come and get copies of pamphlets after his address. Among those who flocked to the dais were: Bruce Partridge, Baldwin-Wallace College; Clarence Smith, U. of Minn.; W. H. Stryker, U. of Pittsburgh; Lawrence Whaley, Howard U.; and R. C. Smith, U. of New Hampshire.

cial policy is to keep the regulations in force just in case full scale war or inflation come back, but to ease the curbs as much as conditions will permit." The speaker warned that in order to take the full advantage of decontrol opportunities when they do come, it will be necessary to pay close attention to the many present and forthcoming control changes. "Keeping the rules," he stated, "while easing the curbs, means that you won't be able to just forget the rules. Learning and shifting to the new procedures, even though they may be simpler, may be just as troublesome and time-consuming."

Other speakers at this session were: J. B. Rork, Consultant, Division of Civilian Education Requirements, F. S. A., who spoke on "What Your Claimant Agency Can Do for You"; W. T. Frazier, Property Utilization Coordinator, Health and Education, F. S. A., who spoke on "The Surplus Property Utilization Program"; Raymond Foley, Administrator, Housing and Home Finance Agency, who spoke on "The College Housing Loan Program"; and Bert Ahrens, who reported on NAEB activities in Washington.

"Legal Implications for the Purchasing Agent in His Work" was discussed by James J. Ritterskamp, Director of Purchases, Washington University, at the Thursday luncheon session. Vice President-elect D. R. Kimrey, director of purchases, University of Oklahoma, presided.

Two "workshop sessions" were held: the first during Thursday afternoon and the second, Friday morning. These sessions presented a variety of group meetings, with convention delegates attending those groups at which the subject matter under discussion was of the greatest interest to them.

The sessions and discussion topics were:

First Workshop Session

Group I

Presiding: Clifton Wilson, Business Manager, Union College.

"Efficient Administrative Organization for Business Activities in Small Institutions"—Arthur Samoore, Business Manager, Illinois College.

"Essential Purchasing Records and Forms in Small Institutions"—W. H. Herbert, Purchasing Agent, Ohio University.

Group II

Presiding: W. E. Smith, Business Manager, South Dakota State College.

"Stores Operation and Efficient Materials Handling"—E. E. Thompson, Purchasing Agent, Syracuse University.

"In-service Training for Purchasing and Related Activities in Small Institutions—Lawrence L. Whaley, Purchasing Agent, Howard University.

Group III

Presiding: G. A. Toberman, Pur-



Retiring NAEB President Jamie R. Anthony, Georgia Tech, checks over final report with Doris Schlayer of the NAEB staff.

chasing Agent, St. Louis University.

"Reporting to Top Management"—E. H. Eisenhardt, Supervisor of Purchases, New York University.

"Property Utilization, Management, and Control"—C. A. Donaldson, Director of Purchase, University of Nebraska.

Group IV

Presiding: G. R. Plummer, Purchasing Agent, University of Tennessee.

"Purchasing Problems of the Tax Supported Colleges and Universities"—Lee H. Morris, Business Manager, Southwest Missouri State College, and Frank Wilson, Purchasing Agent, Georgia Institute of Technology.

Second Workshop Session

Group I

Presiding: G. Edward Nealand, Manager of Laboratory Supplies, Massachusetts Institute of Technology.

"Problems in the Purchase of Office Equipment and Supplies"—M. T. Tracht, Purchasing Agent, Illinois Institute of Technology.

"Preparing Purchase Specifications"—James F. Williams, Purchasing Agent, School District of Philadelphia.

Group II

Presiding: W. E. Keating, Business Manager, Fort Hays Kansas State College.

"Problems in the Purchase of Maintenance and Housekeeping Supplies and Equipment"—Russell Tilt, Business Manager, Western Reserve Academy.

"Supplier Selection Policies"—J. A. Branch, Director of Purchases and Stores, University of North Carolina.

Group III

Presiding: Gerald D. Henderson, Business Manager, Vanderbilt University.

"Unfinished Problems" Panel—S. F. Bretske, Vice President and Comptroller, University of Chattanooga; A. G. Burks, Purchasing Agent, State University of Iowa; L. D. Meyer, Purchasing Agent, Oklahoma Agricultural and Mechanical College; George E. Van Dyke, Assistant Comptroller, The George Washington University.

At the final business session of the convention, outgoing President Jamie R. Anthony presented his report to the membership on his term of office; Forrest L. Abbott presented the treasurer's report. Reports were also presented on the Educational and Institutional Cooperative Service Inc.

In honor of the new president, Kermit A. Jacobsen, purchasing agent, California Institute of Technology, the closing session of the convention was the President's Inaugural Banquet.

Ewan Clague, Commissioner of the Bureau of Labor Statistics, spoke on "The Use of the Consumers' Price Index and Other Statistical Series in Business and Labor Contracts". The A Cappella Choir of Catholic University sang several selections.



Charles Hoff, U. of Omaha, addressed the convention on "In-Service Education for the Business Department".



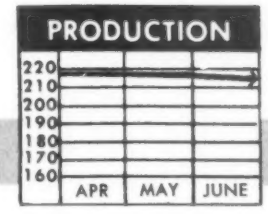
Coffee Time

Eugene Turner, Princeton, and Horace E. Godshall, Ursinus, with Mrs. James Ethridge, enjoy the hospitality of Standard Brands, Inc., at the products exhibit.

Trend of Business
As Seen In Current
News & Statistics

Where We Stand

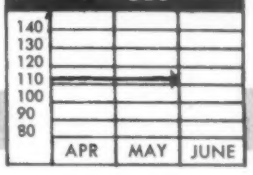
PRODUCTION



	BASE	LATEST	MONTH AGO	YEAR AGO	% OF CHANGE IN MONTH	% OF CHANGE IN YEAR
Industrial Production Index	1935-1939=100	214 (est.)	216	222	— 0.9	— 3.6
Steel Production (Weekly)	000 net tons	255*	2,084	2,063	—87.7	—87.6
Electric Power Production (Weekly)	mil KWH	7,005	7,030	6,734	— 0.3	+ 4.0
Bituminous Coal Production (Weekly)	000 net tons	7,500	8,550	9,766	—12.3	—23.2
Auto, Truck & Bus Output (Weekly)	units	119,859	120,373	143,288	— 0.4	—16.4
Petroleum Output (Weekly)	000 bbls.	5,989	6,203	6,087	— 3.4	— 1.6

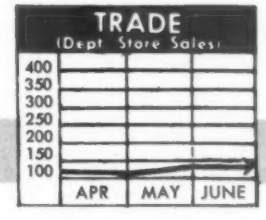
*Strike period

PRICES



	BASE	LATEST	MONTH AGO	YEAR AGO	% OF CHANGE IN MONTH	% OF CHANGE IN YEAR
All Commodities (BLS)	1947-49=100	111.6	111.8	115.9	— 0.1	— 3.7
Farm Products	1947-49=100	108.1	108.7	115.7	— 0.5	— 6.5
Metals & Metal Products	1947-49=100	121.8	122.5	123.2	— 0.5	— 1.1
Structural Products	1947-49=100	112.8	112.8	113.6	0	— 0.7
Steel Billets (Pittsburgh)	net ton	$56.00	$56.00	$56.00	0	0
Steel Scrap, heavy melting, Pitts.	ton	43.00	43.00	44.00	0	— 2.3
Copper, electrolytic	lb.	.24½	.24½	.24½	0	0
Rubber (rib-smoked sheets)	lb.	.38	.38	.66	0	—48.4
Wheat, No. 2	bu.	2.58¾	2.78	2.69⅝	— 6.9	— 4.0

TRADE (Dept Store Sales)



	BASE	LATEST	MONTH AGO	YEAR AGO	% OF CHANGE IN MONTH	% OF CHANGE IN YEAR
Dept. Stores Sales Index (Fed. Res.)	1935-39=100	110	117	108	— 8.5	+ 1.8
Commercial Failures (Dun & Bradstreet)	no.	120	161	172	—25.4	—30.2
Freight Carloadings	cars	684,243	719,793	813,326	— 4.9	—15.9

FINANCE

Stock Prices (Standard & Poor's)	1926=100	193.0	187.4	170.9	+ 2.9	+12.9
Bank Clearings (New York)	mil $	8,071	8,769	8,117	— 7.9	— 0.5
Federal Reserve Credit	mil $	24,128	22,315	23,783	+ 8.1	+ 1.8
Currency in Circulation	mil $	28,830	28,497	27,499	+ 1.1	+ 4.8

THE OUTLOOK FOR BUSINESS — as Viewed at the —

Here's What the Experts Said:

The Short Term Outlook, as developed by individual speakers and panel sessions was mixed, with expectations of a slow summer, but a pickup of general business in the fall. Industrial activity is considered still quite high in comparison with other years and can stay in that general vicinity in the face of factors tending to force it down.

The Long Term Outlook appeared to have a somewhat darker hue, with general agreement that some period of adjustment must follow the boom conditions under which we have been living for some time. Government controls, artificial interference with normal methods of business, extraordinary demands due to the abnormal international situation, and the increasing pressure on wage rates were pointed out as elements that could not continue much longer without some ill effect.

How to solve the problem of adjustment—if it can be solved—was a question that brought many differences of opinion. It was generally felt that by keeping a steady head on all sides, by making mutual concessions to each other (labor and management), and by voluntary acceptance of price and wage relationships that will enable business to continue, we could keep from falling into a really serious recession.

Highlights of the individual talks follow.

R. C. Swanton, Chairman of the Business Survey Committee of the National Association of Purchasing Agents: We are facing a long overdue period of adjustment from unnatural business booms, but for the nearby future nothing is pointing to violent up or down swings.

Edwin G. Nourse, former Chairman of the President's Council of Economic Advisers (whose full talk is printed elsewhere in this issue): We are entering a real, but not ruinously competitive buyers' market from an inflationary sellers' market...We could go forward into a reasonably stable and continuing prosperity—if we would all behave ourselves—that is, face the economic facts of life instead of trying to beat the game...It does not seem realistic to expect that patterns of human behavior, business behavior and political behavior will change fast enough to bring us out of the difficult situation which seems to be shaping up for 1953, or some year not much later.

Martin R. Gainsbrugh, Chief Economist, National Industrial Conference Board: The note of cautious optimism with which industry entered Year II of the garrison state is being replaced by increased caution and by a growing move toward consolidation within the individual enterprise to strengthen its financial position against the uncertainties, if not economic storm of Year III of the defense program...There is, however, little reason to expect a sharp business slide. As long as defense requirements remain high, no large decline in personal incomes seems likely. And even a moderate decline in consumer income is more apt to be offset by a lower rate of saving than a cut in consumer spending, unlike a year ago...Barring a war, the long range forecast is for good balance in supply and demand for most goods.

George A. Renard, Executive Secretary-Treasurer of the National Association of Purchasing Agents: The problem is not production—it is sales and distribution. I see no shortages in consumer goods.

Heinz Luedicke, Executive Editor, The Journal of Commerce: The second half of 1952 will be moderately better because of mounting defense expenditures, the final phase in the plant expansion program, and a moderate, at least seasonal, improvement in the nondurable goods industries...I have been inclined to look toward a rather severe post-defense setback, but I am just about ready to modify my opinion somewhat. Maybe we'll be lucky once again, and get away with a relatively minor setback.

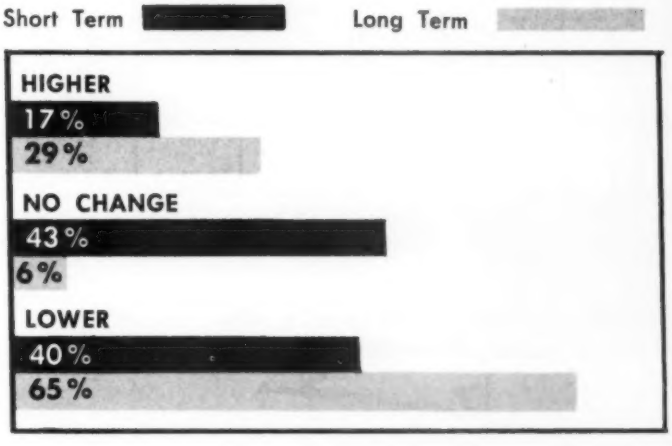
E. F. Phelps, Jr., Director of Price Operations, Office of Price Stabilization: I see a continued and fairly substantial upward pressure on prices. The period of general inventory liquidation is almost over.

PURCHASING OPINION was:*

***Purchasing Magazine's monthly Opinion Poll was conducted personally among visitors to the convention. The answers here represent a cross-section of opinion of a large number of purchasing agents from all parts of the country.**

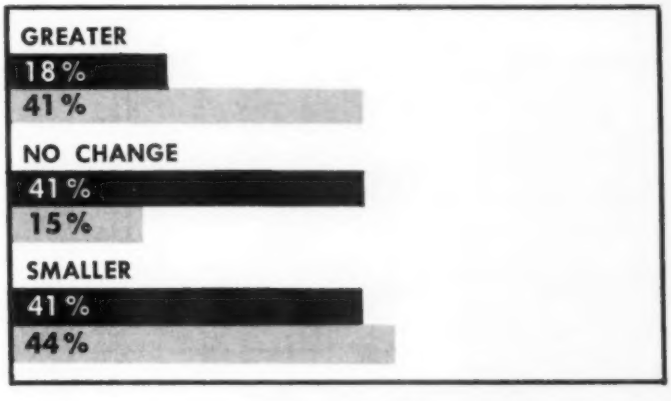
PRICES

Higher prices for the short term are expected by 17%, while 29% expect them for the long term. Forty-three per cent expect prices to remain about the same in the immediate future, while only 6% think they will stay the same for the long term. Four out of five (40%) expect them to go lower shortly, while almost two out of three (65%) think they will drop later on.



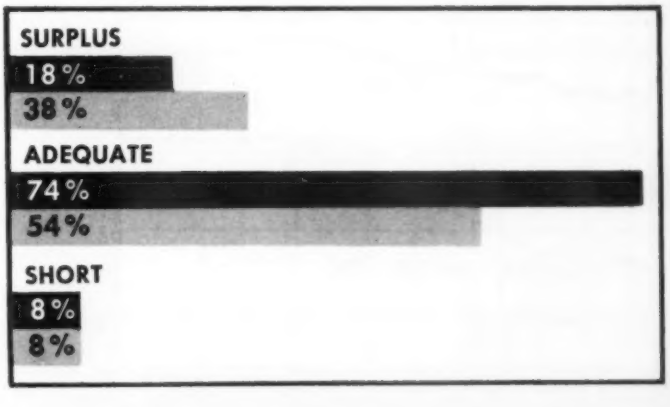
DEMAND

Increased demand for materials is expected shortly by 18%, while 41% expect it to go up later. No change is seen by 41% for the short term, and only 15% expect the situation to remain the same for the long term. Demand will be smaller for the short term say 41%, and 44% think it will be smaller for the long term.

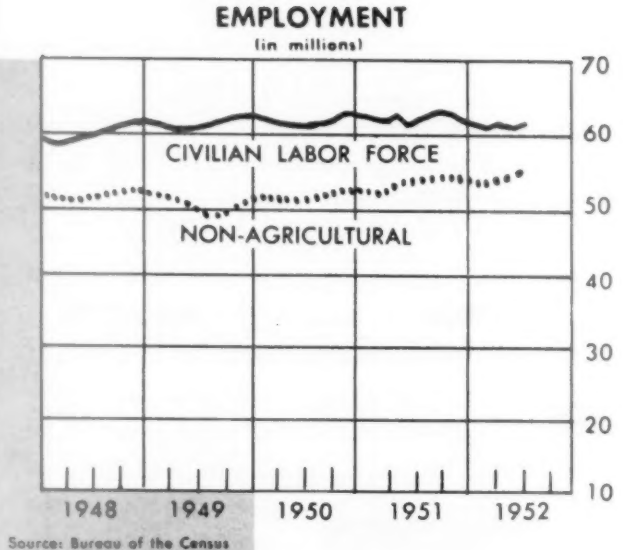


SUPPLY

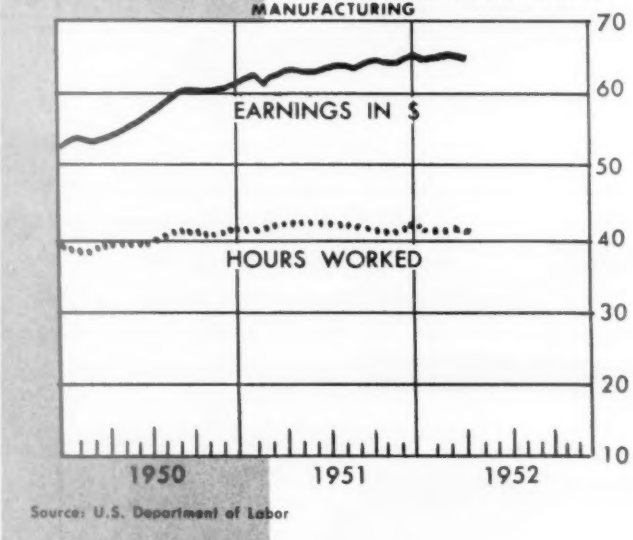
Supply will be adequate for the short term, according to almost three-quarters (74%). A little over half (54%) expect it to be adequate for the long term. A surplus is expected for the short term by 18%, for the long term by 38%. In both cases—long and short term—only 8% expect a shortage of materials.



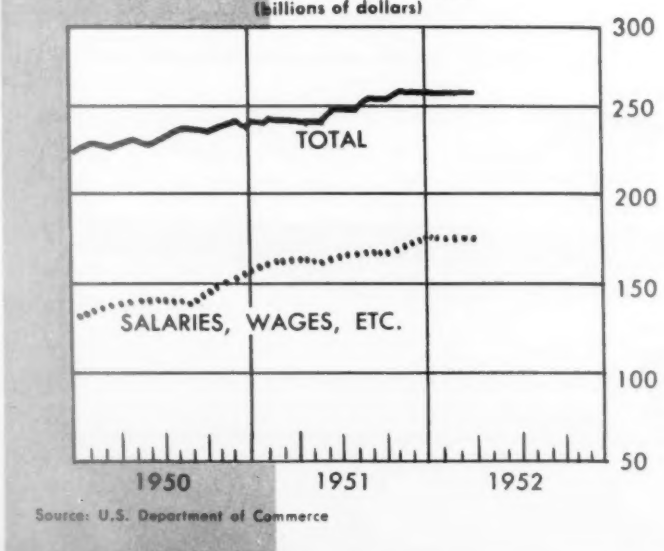
THE PULSE OF BUSINESS



Source: Bureau of the Census



Source: U.S. Department of Labor



Source: U.S. Department of Commerce

The upswing that occurred during the first couple of months of this year has been pretty well discounted — one prominent economist characterized it as a "short-lived seasonal spurt" — and business is expected to stay at a fairly level plateau, with only minor variations, for the balance of the year.

Basic indicators shown in this section supply the framework for the leveling-off picture. Industrial production, after hitting a high 222 in February has declined slowly to approximately 214. The steel strike has undoubtedly had some effect here, but cutbacks in civilian production prior to the strike have contributed most to the downward movement. Retail trade — singled out at the N.A.P.A. convention as a possible bulwark against any great slide in business in the coming months — has been sluggish. Price cuts and production cuts are still going on in durable goods.

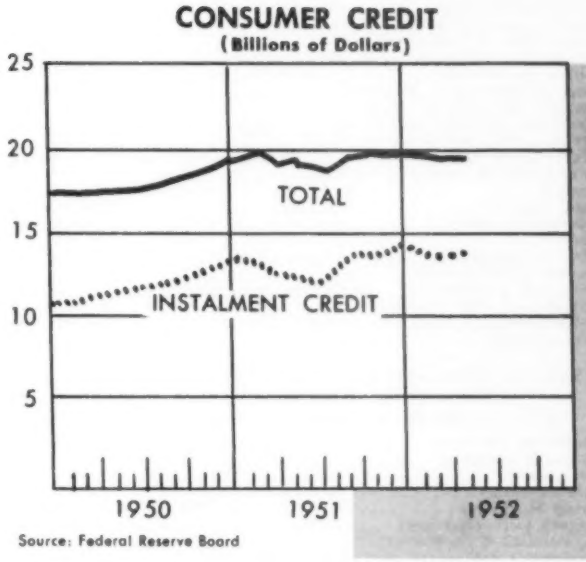
Both employment and wages have been relatively stable for some time, allowing for normal seasonal fluctuations. Raw materials prices, notably those of lead, zinc, and rubber, have dipped, while food prices have remained comparatively firm, with some pressure upward. Personal income showed only a small rise in April over March, in line with the general stability which has been in evidence since last October, when the annual rate was $258,000,000,000. The easing of credit controls — regulation W was suspended. Regulation X modified in May — has not yet had any demonstrable effects. Inventories are high, raw materials shortages are over for the most part, and the demand-supply situation in general is much better than had been anticipated when the rush to rearm got under way.

In view of these trends, sentiment for the removal or at least drastic modification of wage-price controls has been steadily rising. When controls were first installed, and for almost a year after, they were looked on by the business community as a necessary evil. The abnormal effects of a big rearmament program, with its tremendous pressures on available supplies was fairly obvious, and it was recognized that without some restraints prices would zoom to dangerous heights. And without some control, the inevitable drop would be long and extremely painful, once our defense needs had been filled. Now, however, it appears that our adjustment to a semi-war economy has been fairly well accomplished and present controls appear not only unnecessary, but in some important ways a hindrance. The great industrial machine of the nation has proved itself capable of meeting increased civilian and military needs. The rearmament program has been "stretched out" to cover a longer period, and therefore lessen its impact on the overall economy.

The price controls that were to protect the economy against shock were, in theory, to be coordinated with wage controls. That coordination has, in fact, been more honored in the breach, particularly in the current steel crisis, to the detriment of the whole control problem.

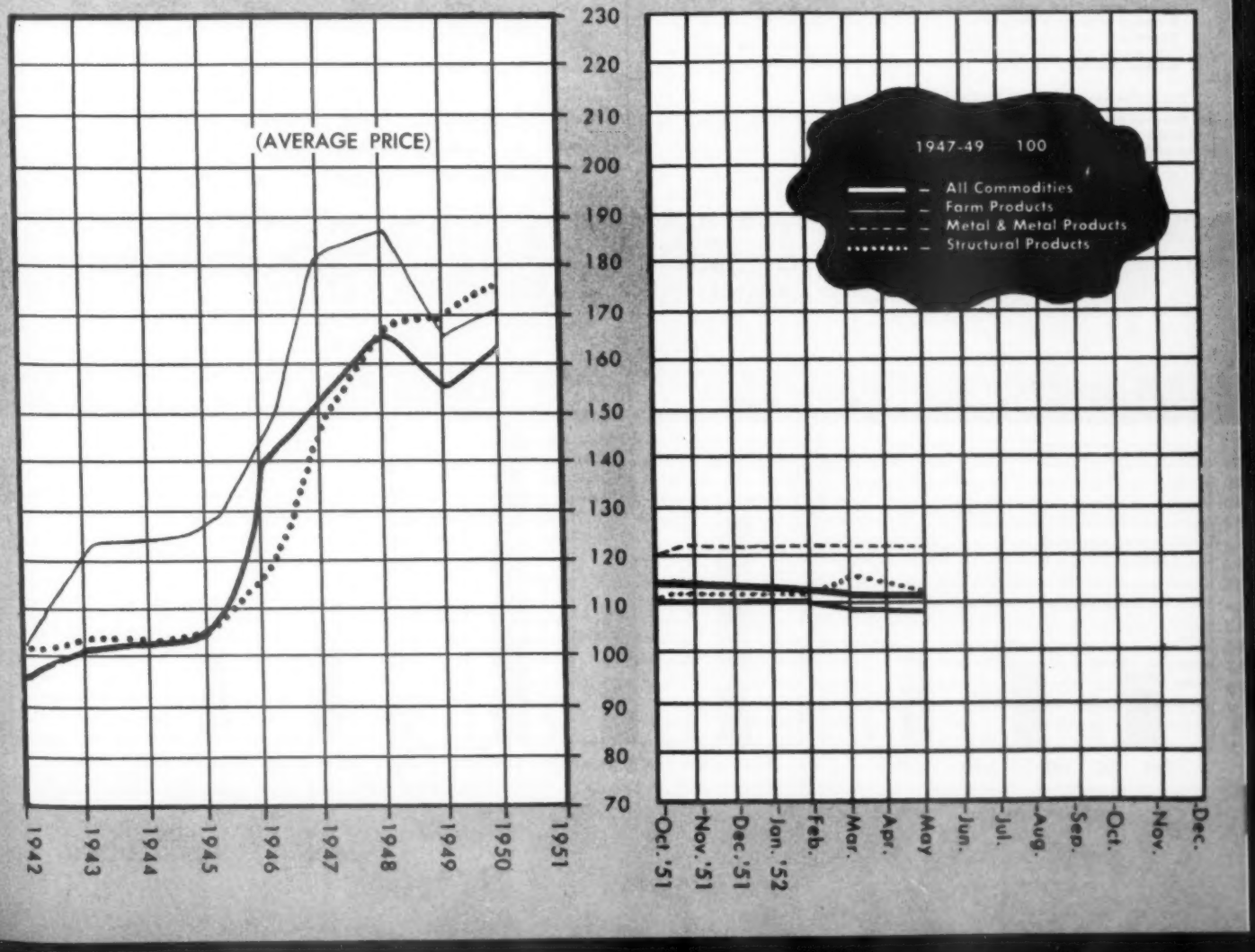
Can wage and price stabilization be salvaged? The latest Survey of the Guaranty Trust Company attempts to answer the question thus: "It will be difficult to find a formula with sufficient promise of constructive results to warrant continuation of direct controls . . . The proposal

of the Senate Banking Committee to replace the Wage Stabilization Board with a body composed entirely of public representatives and devoted exclusively to wage stabilization, without authority to recommend settlement of disputes, would be a step in the right direction . . . (it) would however, be regarded by labor leaders as a political defeat which they might feel impelled to counter by again refusing to cooperate in the mobilization program . . . There is no reason to suppose that the unions would be more amenable to true wage stability now than they were at the beginning of the program . . . If direct controls are to continue, the remaining alternative would be to administer them flexibly, giving ground on both wages and prices to the extent necessary to hold the support of the groups concerned and maintain a reasonably equitable and economically feasible wage-price structure . . . (This solution) would continue the evils of a regimented economy without yielding even the temporary and artificial stability which direct controls, under certain conditions, can produce."



Source: Federal Reserve Board

THE PRICE PICTURE



MANUFACTURERS' SALES, INVENTORIES AND NEW ORDERS

	1951			1952		
	March	Nov.	Dec.	Feb.	March	April
Value of Manufacturers' Sales Seasonally Adjusted (Millions of Dollars)						
All Manufacturing industries	22,605	22,592	20,761	23,332	21,964	23,242
Durable goods industries	10,851	10,829	9,786	11,493	10,770	11,360
Primary metals	1,953	1,955	1,853	1,985	1,873	
Fabricated metals	1,171	1,215	1,076	1,224	1,125	
Electrical machinery	1,140	1,086	1,034	1,121	1,088	
Machinery (except electrical)	1,796	2,098	1,926	2,316	2,071	
Motor vehicles & equipment	1,859	1,668	1,357	1,675	1,716	
Transportation equipment (exc. motor vehicles)	407	614	610	697	648	
Furniture and fixtures	350	287	242	273	277	
Lumber products (exc. furniture)	754	620	587	736	686	
Stone, clay and glass products	570	522	418	551	485	
Professional, scientific instruments	245	230	222	284	258	
Other industries, incl. ordnance	608	534	462	632	542	
Nondurable goods industries	11,754	11,762	10,975	11,839	11,194	11,882
Food and kindred products	3,228	3,143	2,979	3,166	2,986	
Beverages	504	550	582	549	604	
Tobacco products	261	289	288	317	287	
Textile-mill products	1,308	1,154	1,110	1,151	1,081	
Apparel	797	804	727	783	699	
Leather and products	318	208	208	218	195	
Paper and allied products	699	660	601	672	631	
Printing and publishing	696	839	782	856	799	
Chemicals and allied products	1,628	1,569	1,408	1,598	1,524	
Petroleum and coal products	1,856	2,107	1,927	2,089	1,950	
Rubber products	459	470	363	440	n.a.	
Book Value of Manufacturers' Inventories Seasonally Adjusted (Millions of Dollars)						
All Manufacturing industries	35,557	41,462	42,014	42,193	42,313	42,572
Durable goods industries	17,576	22,057	22,675	23,037	23,232	23,444
Primary metals	2,294	2,712	2,778	2,819	2,806	
Fabricated metals	1,828	2,411	2,438	2,418	2,425	
Electrical Machinery	2,077	2,767	2,870	2,948	2,975	
Machinery (exc. electrical)	4,006	4,918	5,112	5,244	5,288	
Motor vehicles & equipment	2,175	2,714	2,700	2,675	2,659	
Transportation equipment (exc. motor vehicles)	1,211	2,051	2,176	2,320	2,435	
Furniture and fixtures	572	542	520	535	524	
Lumber products (exc. furniture)	902	1,045	1,092	1,077	1,095	
Stone, clay and glass products	711	810	841	878	904	
Professional, scientific instruments	549	701	718	719	703	
Other industries, incl. ordnance.	1,251	1,387	1,428	1,404	1,417	
Nondurable goods industries	17,981	19,405	19,339	19,156	19,082	19,129
Food and kindred products	3,330	3,488	3,386	3,451	3,479	
Beverages	1,222	1,204	1,193	1,224	1,240	
Tobacco products	1,605	1,816	1,836	1,770	1,762	
Textile-mill products	2,800	2,899	2,814	2,670	2,564	
Apparel	1,590	1,447	1,446	1,384	1,318	
Leather and products	640	591	567	546	547	
Paper and allied products	808	956	1,005	1,051	1,056	
Printing and publishing	684	727	757	760	763	
Chemicals and allied products	2,520	3,016	3,000	2,996	3,028	
Petroleum and coal products	2,228	2,582	2,535	2,500	2,520	
Rubber products	554	736	799	805	n.a.	
Manufacturers' New Orders (Unadjusted)						
All Manufacturing industries	28,490	22,870	20,344	22,192	22,948	n.a.
Durable goods industries	15,542	10,960	9,889	11,000	11,375	n.a.
Nondurable goods industries	12,948	11,910	10,455	11,192	11,573	n.a.

p — preliminary n.a. — not available r — revised

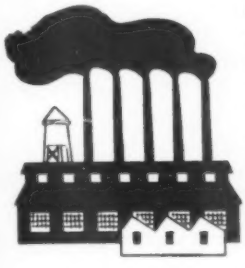
SALES, INVENTORIES AND NEW ORDERS



STRAWS IN THE TRADE WIND

● Latest report of the International Raw Materials Conference, in which 28 nations participate, states that the group is trying to cut down its activity in the field of allocations wherever possible. It noted that international allocations have been lifted on zinc, and that emergency allocations of newsprint are no longer being made. The IMC has been under some criticism from Congressional quarters, which charge it with trying to impose permanent controls on scarce raw materials.

● Plant and equipment expenditures during the next six months will total $12,500,000,000 according to an estimate released by the Department of Commerce. Capital outlays for the first nine months of 1952 are expected to run about $18,100,000,000, or 9% above those for a similar period in 1951, the department said. It said the previous estimate of $24,100,000,000 in expenditures for all of 1952 would apparently be exceeded.



● The National Association of Manufacturers has completed plans for the establishment of a service that will enable small concerns "to learn where to go for contracts and assist prime contractors in increasing their lists of potential subcontractors." This clearing-house type of service will be available through the associations' twelve regional offices. All manufacturers will be eligible to receive it, whether or not they are members of N.A.M. Manufacturers seeking subcontracts will be asked to supply data on machines and other facilities they have available.

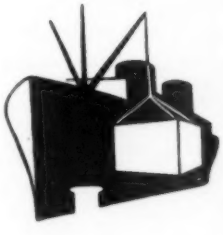
● The Business Survey Committee of the Purchasing Agents Association of Chicago gives this summary of its latest report: "With deliveries satisfactory, inventories are continuing to decline and shorter term buying policy becomes more and more prevalent. The backlog of orders is lower for more than half the members reporting. As a consequence, production and employment are also off. Our prognostication of *poorer business* in the months ahead, as made in our April summary, is borne out in this month's report."

● May deliveries of new domestic freight cars totaled 6,857, compared with 7,403 in April, and 9,774 in May, 1951, according to the American Railway Car Institute and the Association of American Railroads. Orders for new freight cars totaled 2,502 in May. Backlog of cars on order and undelivered as of June 1 was 103,910.

● A wheat crop that may approach the all-time high established in 1947 is anticipated in the Department of Agriculture's latest forecast for 1952. The crop is expected to reach a total of 1,326,157,000 bushels, the second largest and 33,157,000 bushels larger than the amount indicated a month ago. Last year's crop was 987,474,000 bushels, and the average for the past ten years was 1,084,664,000.

● Bagasse, the residue of sugar cane after the juice has been extracted, has been developed to a point where it can be used for making certain kinds of paper. This was reported recently by W. R. Grace & Company, which has been developing bagasse paper-making processes for the last 12 years in Peru. According to an official of the company, bagasse could be used to provide high-grade printing paper for the United States market and containers, shipping bags and similar products for foreign markets.

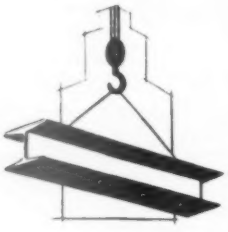
● United States exports to foreign countries declined during April by about 6% to a total of $1,330,900,000. This was the first monthly decline reported this year. The total was also 10% below the figure for April 1951. Imports totaled $931,800,000 for the month, about 3% below March. Compared with the average month in 1951, April exports were about 6% higher, while imports were approximately the same.



● Housing starts in May totaled 107,000, compared to the April figure of 108,000, the Bureau of Labor Statistics has reported. This was the second highest number of housing starts for May. The record for starts in that month was set in 1950.

MATERIALS AND MARKETS

STEEL: Losses due to the strike were averaging around 262,000 tons daily as this was written, according to estimates of the American Iron and Steel Institute. Losses during late April, early May and the first two weeks in June hit nearly 5,500,000 tons. With no prospect of peace in the industry imminent, it seemed that it wouldn't be too long before the total drop in production reached the 10,000,000 ton mark set in the 1949 strike. A.S.I. has estimated that as of June 15, more than 34,500,000 tons had been lost because of major strikes in the United States since the end of World War II.



No great pinch in supplies had been reported up to the middle of the month but there were indications of spot shortages, with many more to come if the strike continued. Once the usual industry vacations are over, it is believed that the situation will become worse, since that will only put off meeting the increasingly difficult supply situation. Inventory rebuilding will be a major problem for many. The automotive industry, biggest user of steel, seemed slated for a slowdown in production after reaching the 2,000,000 passenger car mark in June — the best output rate achieved in many months. Studebaker officials were reported as saying "we can squeeze through June" and Chrysler Corporation reported "it's getting constantly more troublesome to keep going." Crosley Division of Avco Manufacturing Company closed its big refrigerator plant at Richmond, Ind., because of its inability to obtain a major stamping assembly from a struck supplier.

The primary danger of shortages appears to be in the military and related fields. As this was written, there had been no definite plan announced — despite much talk of one — for permitting the production of vital steel for defense needs. Scarcity of special products in this category threatened to close several plants making such important items as tanks, trucks, bazookas, and mortar shells. Cadillac's tank plant in Cleveland, which makes the M-41 tank, was reported during the third week in June to have only enough steel to remain in production ten days or two weeks.

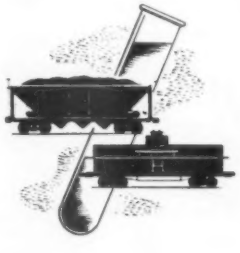
NON-FERROUS METALS: There seems to be more copper available — at a price — and the government's aim now is to encourage domestic users to go out and get it. After months of dickering, U.S. finally agreed to let buyers take Chilean copper at 36½¢ a pound — but the buyers wouldn't bite. The next move was to raise price ceilings on copper products by an average of 3.84¢ a pound to compensate users for the high foreign price. Still the bait was not strong enough for many. The latest move is authorization of a 43% increase in copper allotments for civilian goods by N.P.A. The latest "incentive" now puts it "squarely up to industry to take full advantage of the availability of our share of the world supply" of copper (50,000 tons a month from the free world's supply through the International Materials Conference) according to a statement by N.P.A. chief Henry A. Fowler. That share, plus the 80,000 tons a month produced domestically, gives us 130,000 tons a month, supposedly adequate for all present civilian and defense needs.

Since the price of lead has fallen below 18¢ a pound — it has been 15¢ since the middle of May — the import duty of 1-1/16¢ a pound was to be restored by the end of June. A rush of foreign lead to the U.S. market was expected before reimposition of the duty. Imports had already been increasing sharply during the first four months of the year, according to the American Bureau of Metal Statistics. There were some indications of a pick-up in demand for lead during June, particularly among automotive battery makers. Users' inventories were reported as somewhat light, and there were indications of some firmness in prices, with a leveling off somewhere in the 15¢ a pound range.

A surplus of tin for American users is indicated in statements made by R.F.C. officials. Imports in 1952 are expected to hit 75,000 tons, much more than enough to meet the estimated consumption requirements of 53,000 tons. R.F.C., which at present buys all tin imported here, will probably permit users to do their own importing before the end of the year. Concentrates, however, will still be handled by the agency, inasmuch as its Texas smelter is the only place where they can be turned into usable metal.

The record production pace set by aluminum producers since January continued into April, according to figures from Donald M. White, secretary of the Aluminum Association. Output is running 13% ahead of the first four months of last year, and 22% ahead of the same period during the peak year of World War II, 1943. Although April was a shorter month, almost as much metal was produced as during March — 153,759,727 pounds as against 154,189,387.

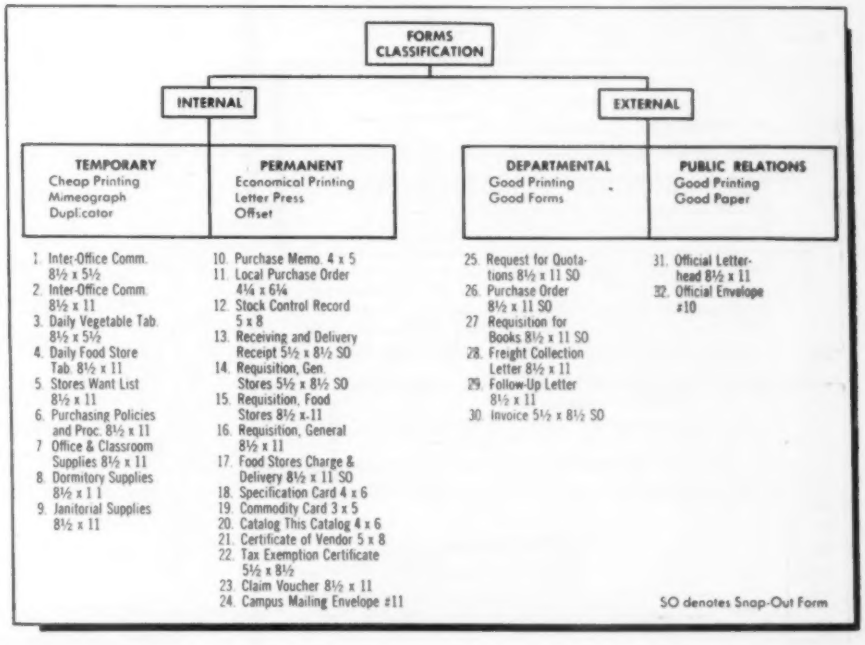
FUELS: A tighter supply of light fuel oil is expected next winter as a result of inroads made by the recent refinery strike. Gasoline stocks were badly hit by the strike, and refiners are trying to make up the loss this summer. This will result in a cutback of light fuel production and the pinch may be felt in the heavy-using areas, particularly northeastern U.S., where a 12% increase in demand is already expected by the Petroleum Administration for Defense.



Essential Purchasing Records and Forms

By W. H. Herbert, Purchasing Agent, Ohio University, Athens, Ohio

Address at the 31st annual convention, National Association of Educational Buyers, Washington, May 1952.



WITHOUT printed forms it would be difficult to operate a modern business. According to Griffith M. Jones (*Dun's Review*, March 1952) the greatest underlying factor in the cause of business failures is incompetence. Income and Social Security tax laws have forced thousands of small companies to keep records, and in so doing they have learned how to make money. Failure of any business man to heed the legal advice "Put it in writing" may have ominous consequences.

To the business man, forms are tools. The purchasing agent uses them daily in requesting information from his suppliers; conversely, he receives forms from his suppliers, conveying information on supplies and transactions. In addition, he receives them daily from various departments of his institution. He is frequently requested to help design a form and then arrange to purchase it.

How Many Forms Needed?

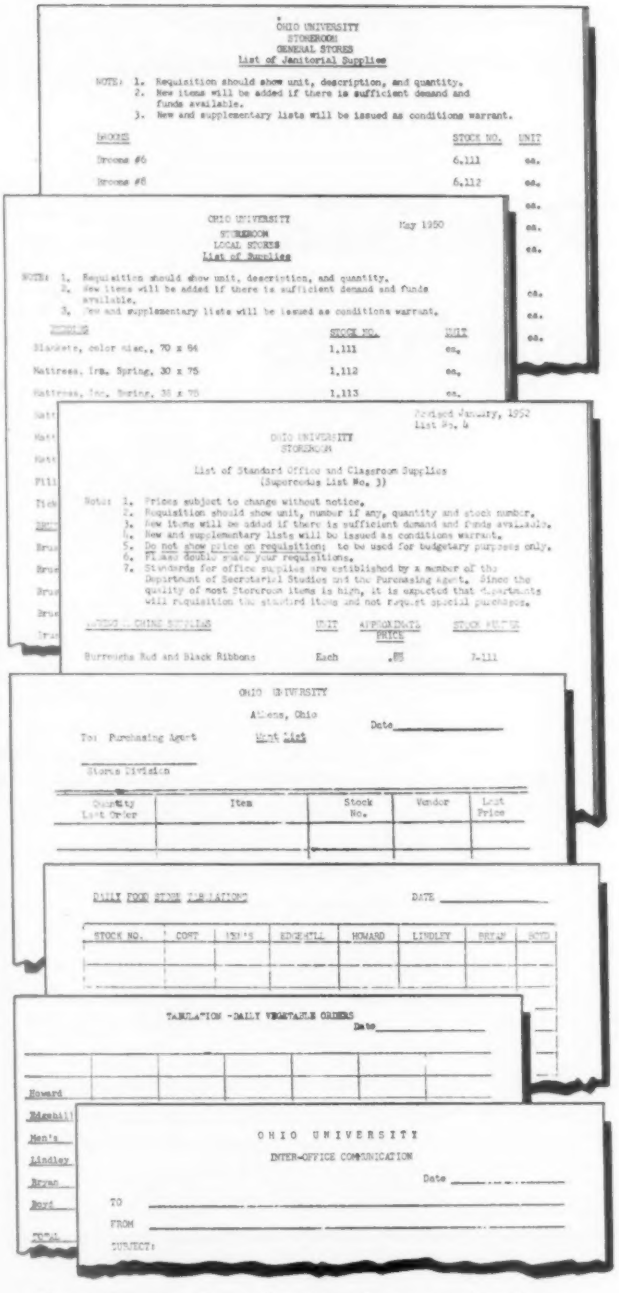
Every purchasing department uses at least a requisition and a purchase order form, or a combination of both. Most institutions use many more than this minimum to expedite the process of procurement and follow it through into the records of receiving, using, and accounting departments. The number of forms used will depend on the size of the institution and the specific requirements of the purchasing department.

The creation of too many forms should be avoided. Remember that they are a means to an end, and not an end in themselves. "We are all in danger of succumbing to a carboniferous and neolithographic age," says Dr. L. H. Gulick, chairman of a committee making a survey of New York City's municipal offices. "Anyone who ever worked in an office knows the system of preparing nine copies of a simple memo and filing all nine." Applying his theories to one municipal agency—the Department of Purchases—Dr. Gulick tossed out more than 73% of the records, which totaled more than five tons of paper.

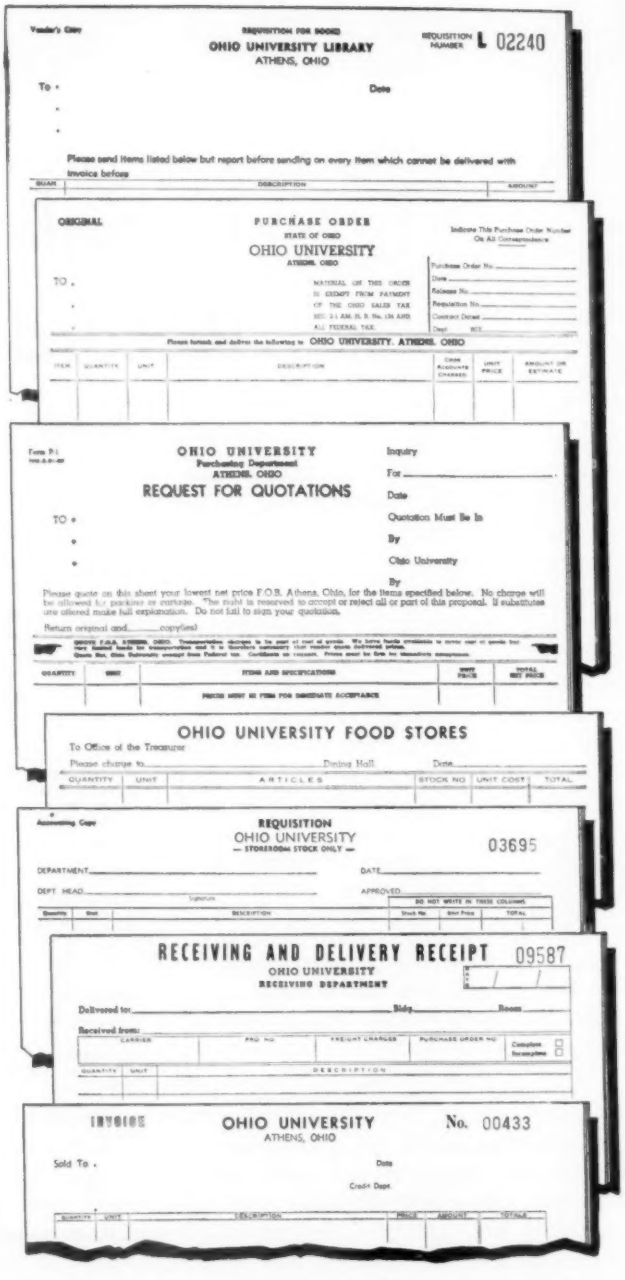
In planning forms for a department, one way to keep costs down to a minimum is to establish two categories — internal and external. The accompanying chart shows the classification of forms used in our purchasing department. Such a chart helps in the proper rating of forms as to their departmental importance.

Classification of Forms

Internal forms are those used only within the department or institution. They may be further classified as temporary or permanent. The temporary forms, for the most part, are used once and discarded. They can be printed or prepared on a mimeograph or duplicating machine,



Many temporary forms for internal use can be mimeographed.



Snap-out forms are effective time savers in the conduct of purchasing office work.

on standard size sheets—8½ x 11, or 8½ x 5½.

Permanent forms are used when special rulings or permanent records are required, yet can be economically printed on standard paper sizes.

External forms are those which go out from the institution. These should be appropriately designed, and well printed on good stock, since they represent the institution in its relations with outside firms and with the public.

Forms Inventory

For inventory purposes, each form should be given an identifying number. Each department of the institution using printed forms should have its own code letter, using numbers to distinguish the form within that classification. A register (ring binder) should be provided to record the history of each form and to eliminate the possibility of duplicating numbers.

Forms should be stocked neatly on shelves, in a closed cabinet, arranged in such a way that quick inventory can be taken. A perpetual inventory record card should be set up for each numbered form, and some person in the office placed in charge of keeping the record up to date and a minimum of stock on hand. Withdrawals should be allowed only on a requisition or memo to the person in charge. Inconvenience and extra costs are the price one pays for rush printing jobs, such as a 6-part snap-out purchase order form which requires three months for delivery.

New Forms

In planning a new form, consideration should be given to all phases of the routine through which the form passes. All persons having any responsibility in connection with the form should be consulted for sug-

2 ways to ease your Steel Shortage

1 Collect all dormant Steel Scrap and get it to the steel producers

Millions of tons of valuable scrap still lie idle in America. Scrap salvage means more production—a stronger America. Clean out your plant . . . sell all your iron and steel scrap to your local scrap dealer now. The need is urgent. Every bit will help to meet the needs of defense production.



2 Make your steel supply go farther —specify N-A-X HIGH-TENSILE STEEL

Users of N-A-X HIGH-TENSILE steel find they can make 3 tons do the work of 4. Through its high strength and corrosion-resistant properties, lighter sections can be used without sacrifice of quality. It fabricates and welds with the ease of mild carbon steel. Let us assist you in applying this economy to your products.



GREAT LAKES STEEL CORPORATION

N-A-X Alloy Division — Ecorse, Detroit 29, Mich.

NATIONAL STEEL CORPORATION

gestions. Some forms can be mimeographed and given a "trial run" before final adoption is made.

Although no two institutions will use exactly the same make-up and wording, there are certain classes of forms that maintain similar features no matter what institutions use them, such as the purchase order and requisition forms. With slight changes, many forms used by one institution could well be used by others for identical jobs. Large printing firms are making use of this similarity factor to offer so-called "stock forms" at considerable savings.

Results of Study

In a study made by the National Association of Purchasing Agents of several hundred purchasing forms in current use, it was found that the practice of good form design, which is the basis for economical purchasing, was frequently absent. Such considerations included:

1. Standardization on a minimum number of basic form sizes.
2. Form sizes that will cut without waste from standard paper sizes.
3. Size and layout that can be printed economically on standard press equipment.
4. Use of a minimum number of grades, weights, and colors of paper.

The test of any proposed form is its historical importance, the useful purpose to be served, and whether that use justifies its cost. (For example, the justification of snap-out forms.) One method used by management today to reduce operating costs is to increase the productivity of the individual worker through mechanization, use of more modern equipment, and systems improvement. While these methods have increased production and reduced costs, there are still many opportunities for increasing production on an individual basis without resorting to production line policy. The use of snap-out forms is such an opportunity. Additional costs applying to snap-out forms can be defended, as they are great time savers. The difference in cost, compared with purchase and use of standard forms, may be the difference between having one person do the work and adding another to the payroll.

The specimen forms shown herewith are those used by Ohio University, a tax-supported institution of 4,000 students. Although they are designed for a medium sized institution, many are applicable to institutions of smaller size.

Effective January 1952

OHIO UNIVERSITY

PURCHASING DEPARTMENT

OUTLINE OF PROCEDURES AND POLICIES

I. Purpose of Outline

The purpose of this outline is to explain the procedures and policies to be followed in the procurement of departmental supplies and services. Procedures which are covered by regulations have been kept to a minimum.

II. Functions of the Purchasing Department

1. The chief function of the Purchasing Department is to render a service to all departments of the university in the procurement of supplies and services.
2. To handle the mechanical operations in procurement; setting up specifications, obtaining quotations, ordering, checking deliveries and making adjustments.
3. To act as a center of information on sources of supply for the many items used by the university.
4. To establish standards for equipment and materials of common use throughout the university in order to take advantage of volume buying.
5. To maintain through the University Storeroom an adequate inventory of maintenance and operating supplies for the proper functioning of the physical plant.
6. To effect savings and economy of the university resources whenever possible.
7. To follow-up on the progress of an order from the time it is issued until the supplies or services are received or performed satisfactorily.
8. To centralize receiving and shipping.

In order to fulfill these functions, the Purchasing Department wishes to enlist your cooperation and promises in return its best efforts to be of help to you in your procurement problems. To make the work of the office effective, it is necessary that you

1. Anticipate your requirements sufficiently in advance to permit the Purchasing Department to do a good job of buying. The axiom "haste makes waste" is particularly true in purchasing.
2. Make your requisitions specific and clear in every detail but permit the Purchasing Department sufficient latitude of choice that may contribute either to improvement or to economy.

Outline of Purchasing Procedures and Policies

The successful operation of any purchasing department will be in direct proportion to the understanding of its functions by the administrative officers and faculty. An important adjunct in the operation of the purchasing department at Ohio University is an "Outline of Purchasing Procedures and Policies" compiled shortly after centralization of purchasing became effective in 1942. The most recent revision is dated January 1952.

This outline, which is a mimeographed form of 5 pages, is sent to all departmental chairmen, deans, and administrative officers. A letter from the Business Manager, indicating the policies to be mandatory, is attached to the outline. General purchasing policies are agreed upon by the President, Business Manager, Treasurer, and Purchasing Agent. Policies are reviewed from time to time, and changes made as approved.

Contents of the manual are indicated by the main subject headings: Functions of the Purchasing Department; Purchasing Policies; How to Obtain Departmental Supplies; Special Services.

The weakness in any mimeograph form (a purchasing outline being no exception) it that it may easily be discarded. The effectiveness of such a document will depend upon the amount of follow-up work done, but continual vigilance tempered by patience will insure success. Special meetings with deans and their staffs, special faculty groups, personal conferences with new staff members, all enhance the effectiveness of the outline.

Reduce Downtime after circuit faults



USE AB-I CIRCUIT BREAKERS

Figure it this way. When a Westinghouse AB-I Circuit Breaker trips . . . anyone can "Reset" it in seconds after the fault is cleared. Simply turn the handle to "Reset" and back to "On". Production down time is minimized.

Compare this with outages on other types of circuit-protective devices. Men and machines stand idle, waiting for an element replacement. You lose valuable production time.

Think it over. You consume expensive time replacing elements. Multiply your total outages by this down time. Can you afford the waste?

AB-I Breakers require no replacement parts, eliminate the repetitive use of critical materials.

Other exclusive AB-I features include unequaled "De-ion®" Arc Quenching, quick-make, quick-break mechanism, low wattage loss and ability to carry temporary nondangerous peak overloads without tripping.

Find out why AB-I Circuit Breakers pay. Call your Westinghouse Distributor or write for B-5456, Westinghouse Electric Corporation, P. O. Box 868, Pittsburgh 30, Pa. J-30092

YOU CAN BE SURE...IF IT'S
Westinghouse

APPARATUS DISTRIBUTOR
WESTINGHOUSE

AB-I Circuit Breakers
THE COMPLETE LINE

"Of course, circuit breakers save money."

Two-way flow of information

Purchasing Reports to Management

By E. H. Eisenhardt, Supervisor of Purchases, New York University

Address at the 31st annual convention, National Association of Educational Buyers, Washington, May 1952.

IT IS important that purchasing departments render reports to top management. Not only is it essential that higher authority have factual data on purchasing department operations, but it is fitting and proper for us, as purchasing agents, to bring into proper perspective the scope and extent of our departmental activities.

Reporting is a matter of communication. It can and should take a number of forms, generally classified as informal and formal reporting. Each operating day there should be oral reporting—be frequent personal contact between executive and subordinate, by periodic staff meetings, or simply reporting orally by telephone. The executive may also be kept informed by personal observation.

Frequent informal reporting tends to produce an easy relationship which in turn will create an open atmosphere for the communication of information bilaterally, i.e., down as well as up through the channels of authority. By these several devices, the executive is provided with much information essential to him in coordinating and integrating the over-all operations of his company or institution.

Formal reporting may be done on a periodic or annual basis. It is usually also desirable to make periodic progress reports to cover a specific phase or part of our activities, as, for example, upon the completion of purchase of equipment for a new dormitory or an extensive alteration. A formal summary of the more important matters involved, including a breakdown of costs and similar information, can be most helpful to top management, as a matter of record or as a guide in possible future operations.

The communications of information or intelligence to higher levels of authority is a universal problem. The executive is under great pressure to get many things done; therefore, his time is limited. Then, too, we must recognize that the human factor provides many variables. The following is a quotation from a book entitled "Executive Action" (By Learned, Ulrich, and Booz; published by Division of Research, Harvard Business School):

"The problem of becoming well informed varies with each executive. Some executives are very anxious to obtain all available appraisals, opinions, and statistics about operations. Other executives assume that they are well informed if they read

RELUCTANT "FAIR TRADERS"

The Association appointed a committee to study and recommend action on "Fair Trade" price maintenance laws. Standing: Paul Nestor, Berea College, and Robert Mullen, Harvard University. Seated: Claude Black, Indiana University, and James C. Littlejohn, Clemson Agricultural College.



SAFE FOR 125 LB. STEAM

New Composition Disc Valves

125 Pounds W.S.P.—200 Pounds W.O.G.
1/4 to 2 Inches in Size
Globes, Angles, Checks

Why buy more valve than you need? Why spend extra dollars putting 150-pound valves on service lines carrying 125 pounds of steam pressure—or less? O-B's *new* No. 16 Line valves will handle 125 pounds of working steam safely and economically. Cast of high-grade steam bronze, these new solder-type valves can be repacked under full pressure and feature hard rubber replaceable discs plus a free-swivelling, self-levelling disc holder.

On your next tubing job specify O-B No. 16 Line Valves. Or if you are using pipe, ask for O-B No. 15 Line—same valve but with threaded ends.



BRONZE GLOBES, ANGLES, GATES AND CHECKS
FOR INDUSTRIAL SERVICE

Ohio Brass

MANSFIELD · OHIO

4191-V



BETWEEN SESSIONS

Comparing notes and ideas following one of the discussion meetings are: John Buchan, St. Michaels College; Hugh D. Palister, Case Institute of Technology; P. C. Pickard, Youngstown College; A. D. Stout, Wilson College; Herbert Matthews, Hiram College; and Dr. Logan, Tuskegee Institute.

routine reports. Still others spend much time and effort in collecting special information. Some executives are able to anticipate developments, while others are frequently surprised by the turn of events. A few facts skillfully interpreted are often more meaningful to an executive than a large mass of undigested data."

A formal annual report should be concise, inviting in form, easily read, and the subject matter interesting. It should be persuasive. We can then be sure that the material will be read and analyzed. It should be timely so as to gain something more than casual treatment. We should employ the usual principles of rhetoric and diction for clearness. The report should be adapted to the intelligence, educational background and experience of the person to whom it is submitted. Facts should be presented accurately and objectively—in other words, state the facts as they are rather than our own interpretations or desires in the matter.

To give life and meaning to a report of purchasing department activities, such data which is used should be compared with criteria already established. We should not only provide information on the activities for the particular period just past, for example, but comparisons should be drawn with our experience of similar past periods. Such comparisons will indicate trends. Without such contrasts, a report may provide a collection of figures with relatively little significance. This then requires an adequate record and a positive pattern of control.

It is therefore necessary, as a first step, that we develop a system for the collection of data on operations, which will be simple and essentially automatic in its functioning. This in turn will provide the historical information for comparison from period to period. It is quite apparent that any trends which are thus indicated, and when measured against the over-all situation of a particular institution, will provide a good indication of whether or not our purchasing department operations are in step.

The more important factors which should be recorded in our daily operations are:

Number of purchasing requisitions received.

Number of requisitions completed.

Number of purchase orders issued.

Number of purchase orders completed and sent to file.

Number of invoices processed for payment.

Dollar value of invoices processed for payment.

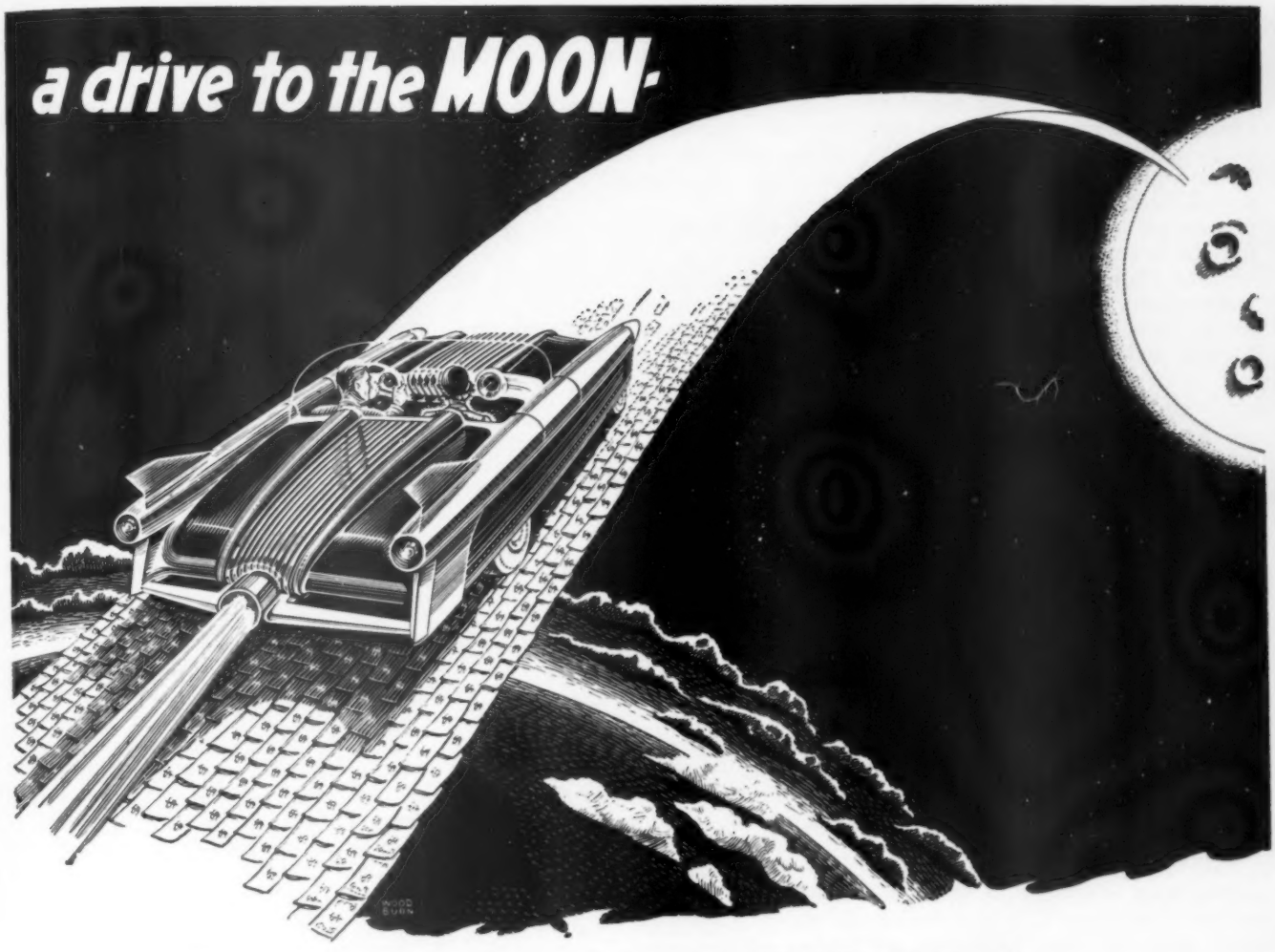
Cash discounts taken.

If it serves our particular purpose we may also add other factors such as income from scrap sales, total value of requisitions received, number of visits by sales representatives, etc. This requires daily statistical record-keeping.

At first observation, it would appear that to accomplish this much time would be consumed merely in collecting and recording the data. However, once the system is established and set in motion, it becomes automatic and requires little time and effort for the clerical staff to accomplish it. One person can spend a fraction of her time while assuming other duties as well, and assume responsibility for the statistical record, while others simply furnish the required information regarding their particular activity each day. It has been our experience that in the aggregate the time consumed each day is a matter of a few minutes for each person to tally and report the day's activities. Such time is more than well spent, not only because of the data which is available when needed, but as a sure-fire device for maintaining departmental controls.

It is also a factor in stimulating the interest of the staff in the daily "box score". It should be carefully explained to the staff, however, that there is no desire on our part to check on the output of the individual, but that this record is a sum total of daily departmental business. By so doing, we emphasize that we are not employing it as a device to coerce the staff into greater efforts, and we accordingly insure complete cooperation. In fact, with this stimulation of interest we play upon the pride of the individual to a point of voluntary and greater accomplishment; it supplies an objective or goal where none may have heretofore existed. This, however, is a by-product.

As we keep our daily record of business, we can observe the extent to which the various factors enumerated are keeping abreast with one another. Certain of these factors are closely interrelated. For example, the number of requisitions completed should keep pace with the number of new requisitions, or our backlog of requisitions in process will increase. Similarly, purchase orders completed should keep pace with new purchase orders issued. If they do not coincide, we can quickly determine that operations are out of balance. We can then search out the cause and take prompt corrective measures. At the end of a specified period, preferably each month, the daily figures may be totaled for a summary of the operations for that period. At the end of the year, we can then total the monthly figures to get the summary for the year. These figures, if desired, may be translated into graph form to provide a visual presentation for easy analysis, with explanatory annotations where necessary. Any element then



On a road paved with YOUR Dollars

A road twenty feet wide, carpeted with one dollar bills, extending 256,471 miles through space to the moon,--illustrates the astronomical magnitude of our Federal debt.

1932 was a bad year for most of us, whether we were in business, or looking for a job, or going to school.

1952 seems much better to the majority of our citizens, with increased business, high wages and a good education for the children.

But how much better off, really, are those of us who think "we're in clover"? Consider our National debt which has skyrocketed from 19 billion dollars to over 260 billion dollars in the past twenty years.

Such a figure is difficult to grasp. But it represents your debt, the amount that you and your family must pay. This debt is the obligation of every man, woman and child in the United States. The interest on this debt must be paid through taxes, and as the debt increases, the more our taxes will increase. If you have a wife and two children, your share of the Federal debt is now approximately $7,000.

Your debt is now 13 times what it was in 1932, and they're planning right now, down in Washington, to inflate it even more.

Do you like it? Is that what you want? If you don't like it and don't want further expansion of our Federal debt, it's up to you to let Washington know. Only when American citizens are aroused and speak up, by electing able and patriotic men to public office, will there be an end to this orgy of public extravagance.

YOUR SCRAP IS NEEDED — YOUNGSTOWN

The Youngstown Sheet and Tube Company

General Offices--Youngstown 1, Ohio

Export Offices--500 Fifth Avenue, New York

MANUFACTURERS OF CARBON ALLOY AND YOLOY STEELS

The steel industry is using all its resources to produce more steel, but it needs your help and needs it now. Turn in your scrap, through your regular sources, at the earliest possible moment.

out of balance will be more positively highlighted.

These records should be the basis and hard core of our report to higher authority. We can then easily and quickly incorporate this information, which has been thus consolidated, into a comprehensive picture of our operations, which may be factually and concisely presented. Then the possibility that management will make use of the report will be considerably enhanced, and obviously the value of formal reporting can be gauged principally by the use to which it is put.

If other auxiliary activities, such as the receiving and stores departments, are a part of the purchasing department, a record of these operations may be similarly kept and incorporated into the report.

To summarize, the purchasing department should submit a formal report annually to higher authority, as part of its obligation, engendered by a delegation of authority to it by management. Furthermore, if this data is not furnished by the purchasing department, the executive may obtain the information from other sources, though not as easily obtainable, at greater consequent cost. Finally, by so doing, we provide management with a measuring device of considerable magnitude for use in current operations and as a basis for the establishment of criteria for future operations as well.

Some Substitutes Work; Some Don't

By John B. Rork, Consultant Division of Civilian Education Requirements
Office of Education, Washington, D. C.

Abstract from an address on "What Your Claimant Agency Can and Will Do for You", presented at the 31st annual convention of N.A.E.B., Washington, May 8, 1952.

YOUR claimant agency in NPA serves as a clearing house for the exchange of ideas and information. Here are three recent examples that have proven beneficial.

The Architectural and Engineering Unit of the Board of Higher Education, New York City, when faced with an inadequate allocation of item 40 (copper and copper-base alloy brass mill products) for flashing, began using plastic wherever possible. It was found to be perfect for parapet sections, and bonding companies were willing to cover it by bond for 25 years. Our New York informant pointed out that the use of plastic for flashing was not new, but that many had either not known of such use or had failed to realize that it was as satisfactory as copper in selected locations of the structure.

A number of institutions were faced with a serious problem when it was impossible for our office tc allocate nickel-bearing stainless steel for laboratory fume hood duct work. The University of New Mexico, working in conjunction with its architects, found a satisfactory solution. The architects requested the contractors to substitute black iron lined with Jennite J-16 for stainless steel in all fume hood duct work except for perchloric acid hood ducts, where stainless steel was still required.

The third example of information exchange worked somewhat in the opposite direction, i. e., a widely recommended substitution was found to have many undesirable features when used indiscriminately. The NPA and others suggested the substitution of aluminum for copper in electrical work. Many were overenthusiastic, and failed to point out a number of pitfalls.

The University of Wisconsin, desirous of cooperating in every way possible, agreed to this substitution in the electrical work for its new Chemical Engineering Laboratory building. The University research staff considered the installation as an experiment. However, before actual use, conditions were found to exist which made it impractical to make the substitution.

Carl Peterson, Superintendent of Buildings and Power at the Massachusetts Institute of Technology, agreed to assist our office in obtaining additional information on the subject. Several cable companies were contacted, and published information was read and analyzed. The most important disclosures were the following:

1. That if the resistance of copper wire be taken as .61, the resistance of aluminum would be unity. Therefore, the area of the aluminum wire for the same current carrying capacity would be, roughly, in the ratio of 1:.61, or about 1.64 times that of copper. Cable people state that aluminum wire sizes should be increased by 2 over copper for comparable results.

2. That the smallest size aluminum wire made at the present time is No. 4.

3. That because of the fact that aluminum oxidizes so quickly no real practical method has yet been devised to permit soldering or otherwise connecting various conductors; this work, so far, has been satisfactory only when done by highly skilled technicians.

4. That because of the fact that aluminum wires are larger, it is impossible to draw additional capacity into existing conduits.

5. That up to the present time there are no devices such as switches, heaters, starters, etc., that have been designed for use with aluminum conductors. Therefore, the space allowed in these appliances is not large enough to accommodate the extra size of the aluminum, and since all are designed for copper, the connections are made of brass or bronze, which creates electrolysis when dissimilar materials are connected, thereby causing high resistance connections. The fact that aluminum is softer than copper has caused trouble on numerous occasions when made tight by brass or bronze screws. The only solution offered to this is that the screw and its connection and the aluminum wire both be tinned, which then brings up a problem of tinning or soldering, previously mentioned as requiring highly skilled technicians for satisfactory workmanship.

Summed up, it seems that the electrical industry is not at this time ready to offer aluminum as a substitute for copper except in the cases of extremely large conductors and transmission lines.

FOR PRINTED OR
ETCHED CIRCUITS

now available!



metal-clad

INSUROK T-725 and T-812

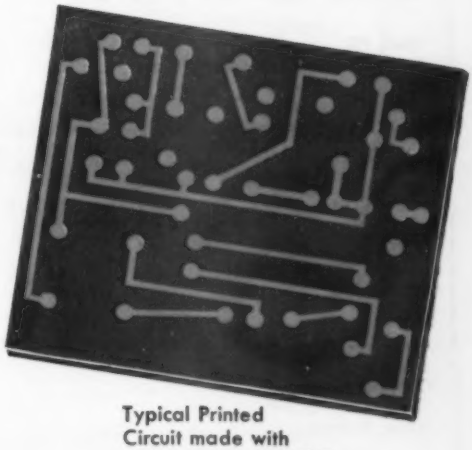
plastic laminates

Laminated INSUROK Grades T-725 and T-812 have made history ever since they were first introduced to the electronics industry. These laminates, possessing a unique combination of properties, have shown sensational performance in critical high-frequency applications.

Now these superior electrical laminates are available in *Metal-Clad* form (with copper or aluminum sheet bonded to one or both surfaces) for the production of "printed circuits."

Metal-Clad INSUROK exhibits outstanding electrical properties which remain remarkably stable under repeated temperature and humidity cycling. In addition, it possesses high physical strength and low cold flow, and punches readily into intricate shapes. The metal foil is bonded by a special process assuring consistently higher bond strengths than ever offered before.

Samples of Copper or Aluminum-Clad INSUROK are available for testing purposes. Send for complete information, today.



Typical Printed
Circuit made with
Metal-Clad INSUROK

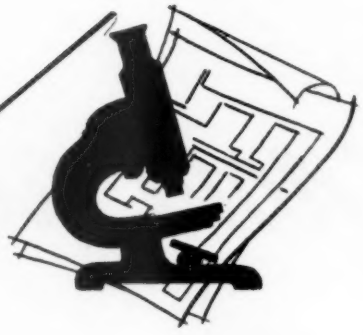
The RICHARDSON COMPANY

FOUNDED 1858—LOCKLAND, OHIO

2791 Lake St., Melrose Park, Illinois (Chicago District)

SALES OFFICES: Cleveland • Detroit • Indianapolis • Lockland, Ohio
Los Angeles • Milwaukee • New Brunswick, (N. J.) • New York • Philadelphia
Rochester • San Francisco • St. Louis

New Products Ideas



For additional information about New Products described in these columns, use coupon on this page.

Power-Driven Strapping Machine Uses Spot-Weld



Strap joints are produced by spot welding in this new power-driven strapping machine announced by Acme Steel Company, 2838 Archer Ave., Chicago 8, Ill. Acme says the machine, which can be integrated into standard-type conveyor lines, provides welded joints with strengths approaching the tensile strength of the size of strapping used. It can accommodate many different package sizes. There is no limit to the amount of strap that can be fed or the amount of slack that can be taken up. Considering overall dimensions, the machine is 43⅛" wide by 45" deep by 47" high.

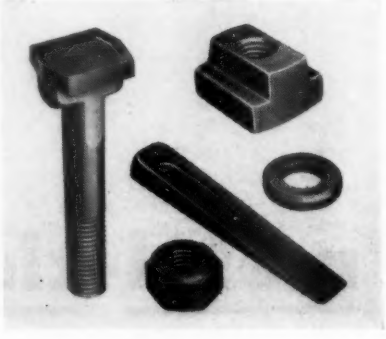
No. 101 — Use Coupon on this Page

Light, Quick-Sealing Protective Packaging

The Chippasac is a new, all-corrugated protective packaging product for shipping small-unit items. The maker, Chippewa Paper Products Co., 2425 S. Rockwell St., Chicago 8, Ill., says it combines light weight with quick sealing features and a large amount of cushion. The Chippasac is available plain or printed and in various weights of backsheets. Chippewa has several stock sizes and will make up special sizes to order.

No. 102 — Use Coupon on this Page

New Items in Set-Up Accessory Line



J. H. Williams & Co., 400 Vulcan St., Buffalo 7, N.Y., has added T-slot bolts, nuts and flat washers, T-slot nuts and set-up wedges to its line of set up accessories. These are used for setting-up work on planers, shapers, milling machines and similar applications. Williams says they will withstand severe machine shop use. The T-slot bolts will not turn in machine table or break out machine table slots. Available in ⅜", ½", ⅝", ¾", ⅞" and 1" T-slot sizes in a wide range of lengths.

No. 103 — Use Coupon on this Page

Alloy Steel For Machinery Maintenance

A new alloy steel designed for the needs of machinery maintenance parts meets three different service requirements, says Carpenter Steel Co., 382 W. Bern St., Reading, Pa. They are: for hard-tempered parts requiring high surface hardness and wear resistance with good strength and toughness to withstand heavy shocks and loads; for tough-tempered parts which do not require

(*Please turn to page* 128)

READER SERVICE COUPON JULY, 1952

MAIL TO:
PURCHASING—Reader Service Dept.
205 East 42 Street
New York 17, N. Y.
I want more information on New Products Numbers:

101	102	103	104	105	106	107	108	109	110	111	112
113	114	115	116	117	118	119	120	121	122	123	124
125	126	127	128	129	130	131	132	133	134	135	136
137	138	139	140	141							

Name..... Title .....

Company.....

Street Address .....

City..... Zone..... State.....

Here's More Proof of B&W Allmul Firebrick Performance

BILLET HEATING FURNACE

"ALLMUL more than doubles life of lining"

A large manufacturer was faced with high refractory maintenance in the discharge zone of a side-discharge billet heating furnace. Combustion chamber temperatures were 2600F-2700F. Production was high—a billet was discharged every 30 seconds. Thermal shock and high temperatures caused various semi-mullite refractories to fail in 5 to 6 months. Then this area was relined with B&W Allmul Firebrick. Result: Allmul stood up for 13 months—2 to 2½ times as long!

ELECTRIC FURNACE ROOF

"ALLMUL lasts 3 to 6 times as long"

In a six-ton electric furnace, handling 15 tons of stainless steel per charge, super duty firebrick had to be replaced every 20-40 heats. Pouring temperature of the metal was in excess of 3100F, with higher temperatures attained in the furnace during periods of oxygen introduction. The owner installed B&W Allmul Firebrick, hoping for a life of 80 heats. Allmul in the first roof lasted for 122 heats—42 more than hoped for. The second roof of Allmul went to 131 heats! Result? Additional orders for B&W Allmul.

INDIRECT ARC FURNACE

"All furnaces converted to ALLMUL after comparative tests"

A large company making alloy steel castings has several indirect arc furnaces melting various alloys, with pouring temperatures varying from 2700F to 3100F. With highest temperature alloys, semi-mullite brick burned out in 6-10 heats. B&W Allmul, which cost approximately the same, showed no appreciable wear after 20 heats. On alloy steels in general, this customer reports far less slag formation (an indication of reduced refractory wear) with Allmul than with any other refractory used. Result: All furnaces are being relined with B&W Allmul Firebrick.

FORGE FURNACE HEARTH

"ALLMUL lengthens life, keeps dry hearth"

A drop forge company was faced with this problem on its 72" wide slot-type furnace operating at 2350F-2400F: Low cost refractories gave soupy slag on the hearth, affecting product quality and die life. More expensive refractories, including chrome plastic and chrome firebrick, eliminated liquid slag, but their life was so short that their use could not be justified economically. A completely new hearth was installed consisting of 4½" of Allmul on top of 2½" of B&W Junior and 5" of B&W IFB. Result: Completely dry bottom; easy removal of scale; *and Almull was in good condition after 5 months of operation.* Based on this performance, additional Allmul hearths were ordered.

Yes, the facts about B&W Allmul Firebrick speak for themselves. This fused mullite brick is proving its economy in dozens of severe service applications. The reason? A unique combination of refractory properties—high hot load strength, high resistance to spalling, good volume stability, a high melting point of 3335F—all resulting in lower furnace costs. Want more data? Write for Bulletin R-29.

BABCOCK & WILCOX

THE BABCOCK & WILCOX CO.
REFRACTORIES DIVISION
GENERAL OFFICES: 161 EAST 42nd ST., NEW YORK 17, N.Y.
WORKS: AUGUSTA, GA.

R-4356

B&W REFRACTORIES PRODUCTS—B&W Allmul Firebrick • B&W 80 Firebrick • B&W Junior Firebrick • B&W Insulating Firebrick B&W Refractory Castables, Plastics and Mortars • OTHER B&W PRODUCTS—Stationary & Marine Boilers and Component Equipment... Chemical Recovery Units . . . Seamless & Welded Tubes . . . Pulverizers . . . Fuel Burning Equipment . . . Pressure Vessels . . . Alloy Castings

HALLOWELL "UNI-TRUKs" MAKE TOUGH JOBS EASY

- All-steel, all-welded construction eliminates dead weight, reduces maintenance.
- Ribbed angle nose takes more weight without bending, makes pickups easier.
- Concave cross members accommodate drums, bags, cartons, rolls, kegs, etc.
- "UNI-TRUKs" roll more freely, handle more easily.
- Available in two models: #720 with 6" ball bearing, rubber treaded wheels, and a load rating of 350 pounds, #730 with 6" ball bearing, rubber treaded wheels, and load rating of 350 pounds. Both models are also available with 5" plain bearing, all-rubber wheels. Load rating is 250 pounds. Stair climbers can be furnished when desired.



HALLOWELL®

Write for descriptive bulletin 789.
STANDARD PRESSED STEEL CO.,
Jenkintown 31, Pennsylvania.

HALLOWELL MATERIALS HANDLING DIVISION

SPS

JENKINTOWN PENNSYLVANIA

(*Continued from page* 126)

high surface hardness but must have the greatest possible strength and toughness; and as a mild-tempered alloy steel that can be readily machined in the treated condition as received. The steel is now available from warehouse stock, annealed or treated to test.

No. 104 — Use Coupon on Page 126

3-Spindle Turret Head



This three-spindle turret head, called "Select-A-Spindle", can be attached to any drill press and permits sequence drilling, countersinking and tapping on a single drill press spindle. The tool provides a selection of speeds on each spindle. Capacity on all three spindles is ⅜". Adjustable torque control spindles for the protection of taps up to ¼" may be supplied for any or all spindles. Quick, positive hand lever indexing of the turret head is accomplished without stopping the drill press motor. Made by Commander Mfg. Co., 4225 W. Kinzie St., Chicago, Ill.

No. 105 — Use Coupon on Page 126

Potential Transformers

Improved indoor and outdoor potential transformers in the 2400-volt class, types PT and PTO, are available from Westinghouse Electric Corp., Box 2099, Pittsburgh 30, Pa. A new crepe paper insulation that is vacuum dried and impregnated has a high impulse and dielectric strength, and a low insulation power factor. The transformers are available in either 45- or 60-kv full-wave impulse test level. They meet the 0.3W, 0.3X, 0.3Y, and 1.2Z metering accuracy classifications. Type C Hipersil cores are used. They are mounted in single-piece, deep-drawn steel cases, with welded-on base.

No. 106 — Use Coupon on Page 126

(*Please turn to page* 130)



Above: Counterboring a hole in a cast iron machine base. Uniformity of chips indicates free-cutting action; chip disposal is aided by wide flutes. And when the operation is finished the cutter is removed from the holder with a simple *twist of the wrist.*

HAND DETACHABLE EVEN AFTER THE TOUGHEST CUTS



CONTINENTAL STANDARD DRIVE COUNTERBORES

There's no wedging action in Continental Standard Drive Counterbores. Cutters are removable from the holder with a simple *twist of the wrist,* even after the toughest cuts. Double driving lugs on the cutters engage double abutments in the holders to give a balanced, positive drive that practically is indestructible. Double bearing areas in the drive assure rigidity and proper alignment of cutters and holders. Continental Counterbores are available individually or in sets that include holders, cutters, countersinks and pilots in practical size ranges.

CONTINENTAL TOOL WORKS

Division of Ex-Cell-O Corporation

DETROIT 32, MICHIGAN



Continental Counterbore Sets, available in your choice of three sizes, are fully described in Bulletin D27161. Send for your copy.

OVER HALF OF ALL TOP-RATED FIRMS USE

Speed Sweep

THE BRUSH WITH THE STEEL BACK



Sweeps cleaner, faster!

Out lasts ordinary brushes 3 to 1

Write for Styles, Sizes and Prices Today!

MILWAUKEE DUSTLESS BRUSH CO.
530 N. 22 STREET, MILWAUKEE 3, WISCONSIN

Gentlemen: Please send complete facts about Speed Sweep.

Company _____

Address _____

City _____ Zone ____ State _____

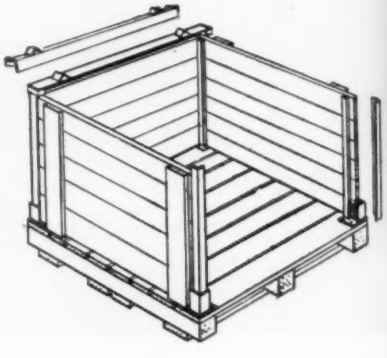
Cup-Type Goggles Give Safety and Comfort



A high degree of safety and great comfort are listed as the features of a new line of cup-type goggles made by Fendall Co., 4631 N. Western Ave., Chicago 25, Ill. They are said to exceed Federal specifications. Each cup is molded to conform to both right and left eye areas of the face, with smooth wide-bearing facial contact surfaces that evenly distribute the weight for added comfort. More than 300 perforations in the side shield allow ample air circulation, and added ventilation through slots in lens ring provides circulation across inner lens surface to reduce fogging. Included in the line are chippers', welders' and dust and splash goggles.

No. 107 — Use Coupon on Page 126

Knock-Down Stacking Box Has Many Uses



You can use this heavy duty knock-down box as a stacking box, stacking bin, or as a stacking pallet. It takes loads up to 5000 lbs., and is easily and quickly knocked down and bundled for shipping. It consists of a wood pallet and four interlocking wood side panels held in place by four structural posts which slip-fit into angle sockets secured to the corners of the pallets with four lag screws. Angle cross bars with alignment angles and end closures slip-fit over the top of these posts to support the box above. Removal of front panel turns it into a stacking open front bin. Made by The Paltier Corp., 1701 Kentucky St., Michigan City, Ind.

No. 108 — Use Coupon on Page 126

(*Please turn to page* 136)

They have

these twelve basic advantages and scores of others

- Light Weight
- High Resistance to Corrosion
- High Electrical Conductivity
- High Conductivity for Heat
- High Reflectivity for Light and Radiant Heat
- Workability
- Non-Toxic
- Strength in Alloys
- Non-Sparking
- Non-Magnetic
- Appearance
- High Scrap and Re-Use Value

They are

available from your local ALCOA sales office, distributor or jobber subject to Government Regulations

For help in interpreting government regulations and all possible cooperation in filling your rated orders call on your local Alcoa sales office, distributor or jobber. You'll find them listed under "aluminum" in your classified phone book.

With them

goes the skill in fabricating, assembly and finishing of 64 years of Aluminum knowledge

This know-how plus the help of the world's greatest aluminum research and testing facilities is available to you through your local Alcoa sales office.

There are

no restrictions on the aid and know-how that go with them

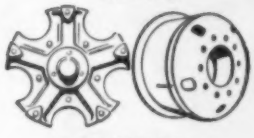
For technical literature and movies to train your personnel, for the personal help of Alcoa sales engineers, for the long-range research and testing of aluminum for your products, call your local Alcoa sales office.

ALUMINUM COMPANY OF AMERICA
1809 G Gulf Bldg. • Pittsburgh 19, Pa.

ALCOA ALSO MAKES PRODUCTS TO CUSTOMER SPECIFICATION



CASTINGS . . .
sand, plaster, permanent mold and die.



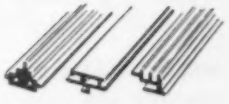
FORGINGS . . .
drop, hammer and press forgings.



SCREW MACHINE SPECIALTIES . . .
special fasteners and screw machine parts.



IMPACT EXTRUSIONS



EXTRUDED SHAPES



"SEE IT NOW," with Edward R. Murrow, brings the world to your armchair...CBS-TV every Sunday--3:30 P.M. EST

ALCOA *first in* ALUMINUM

WILLSON

dependable eye protection

keeps you on the safe side

WILLSON SAFETY EQUIPMENT

Combined protection, comfort and appearance make Willson safety spectacles outstanding in value. Choose from a full range of metal and plastic frames—fitted with Super-Tough* heat-treated glass lenses, or Plas-Tough* plastic lenses—every one tested for impact resistance and optical quality. Send for catalog describing our complete line of safety equipment.

STYLE AH



METAL FRAME Latest style spectacle with single bridge. Have Hi-Line temples with a "dressy" look. Also available with side shields. (Non-flammable plastic frame Style WKS shown at top.)

CHOOSE YOUR FAVORITE LENSES FOR ANY WILLSON SPECTACLES



SUPER-TOUGH* WILLSONITE® PLAS-TOUGH*

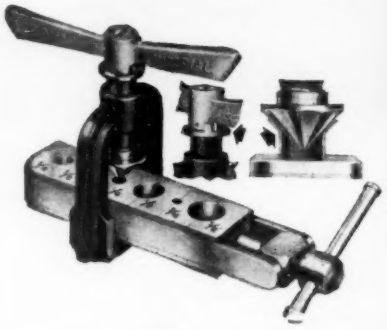
Three popular types of lenses are available for all Willson Spectacles. Clear glass Super-Tough*, Willsonite® Green Super-Tough* and the new Plas-Tough* lenses that combine the impact resistance of heat-treated glass with the comfort of lightweight plastic.

*Trademark

See your WILLSON distributor or write for Catalog

WILLSON PRODUCTS, Inc., 221 Washington St., Reading, Pennsylvania

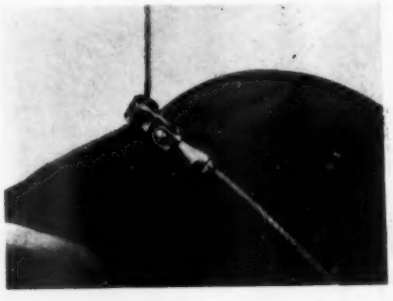
Flaring Tool Provides Automatic Burnishing



A new tool for flaring soft copper, steel, aluminum and brass tubing automatically burnishes the face of the flare after it has been formed. The tool will make 45° flares on 3/16", ¼", 5/16" ⅜", ½" and ⅝" O.D. tubing for standard S.A.E. flared fitting joints. A lost motion mechanism automatically disengages the feed during the first revolution, causing faceted cone to perform a burnishing action and to give the flare a highly polished finish. As an additional feature, the flare is formed in the air above the flaring bar. This is said to assure that the original wall thickness of the tubing is maintained at the base of the flare, resulting in stronger flares which stand up better under vibration. Made by The Imperial Brass Mfg. Co., 1200 W. Harrison St., Chicago 7, Ill.

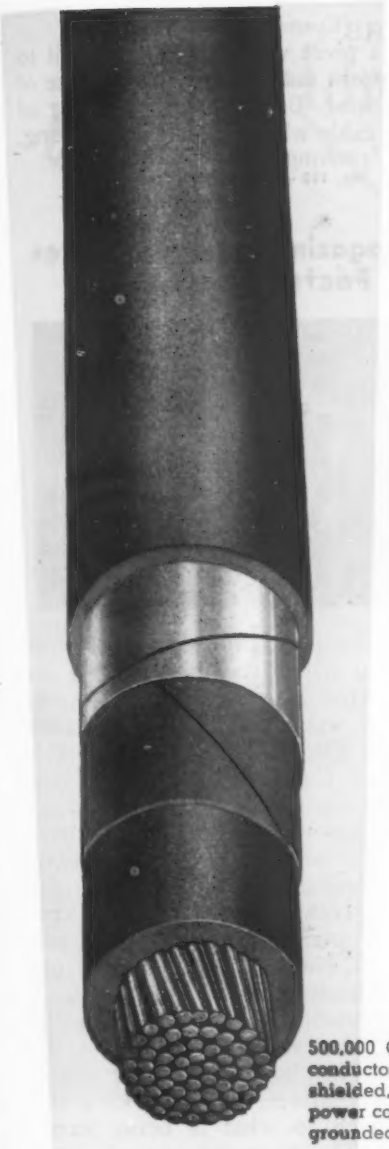
No. 109 — Use Coupon on Page 126

Choker Sling Fitting Boosts Safety, Rope Life



Increased safety and longer rope life are provided with a new choker sling fitting, claims Electroline Co., 4121 S. LaSalle St., Chicago, Ill. The sling fitting employs two overlapping and co-acting hooks which are easily applied to a wire rope to form a loop of any size. The rope cannot be freed from the sling until both hooks are disengaged manually, thus preventing accidental release. The hooks are joined to the fitting portion of the choker sling fitting

(*Please turn to page* 138)



500,000 CM stranded single conductor RoZone insulated, shielded, RoPrene sheathed power cable . . . 15,000 volts, grounded neutral.

Rome RoZone®

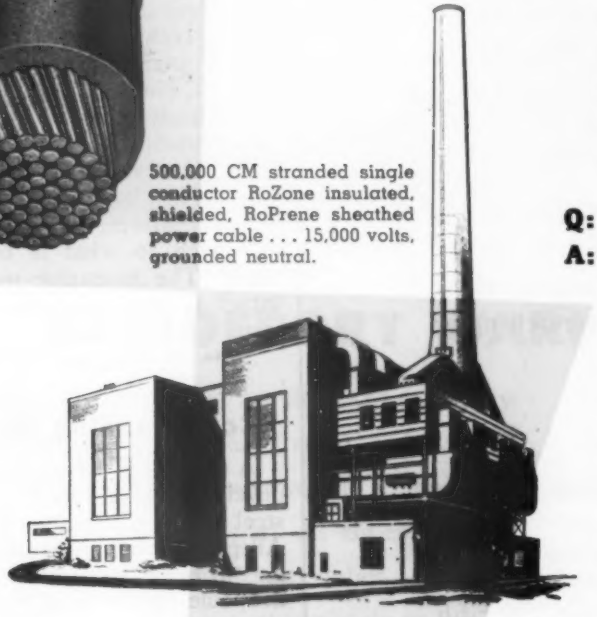
This Superior Ozone-Resistant Insulation Deserves Your CONFIDENCE

Q: WHAT IS ROZONE?

A: A PREMIUM quality, ozone-resistant, oil-base type insulation developed by Rome Cable research, exceeding *all* requirements of ASTM specification D-574. RoZone is exceptionally resistant to corona action and aging. It shows high electrical stability in water and possesses excellent electrical characteristics. While the preferred outer covering is a RoPrene (Neoprene) sheath, RoZone insulation can be supplied with either braided or lead sheath coverings. In addition, on shielded types of cable, a special thermoplastic sheath is available.

Q: WHERE IS ROZONE USED?

A: Rozone is recommended for all specialized or general purpose wiring where long-time dependability is paramount. It is particularly suitable for higher voltages up to 15 KV. With proper sheath protection, RoZone is widely used for high voltage underground and aerial power distribution, street lighting circuits, signal and control cables, as well as for low-voltage power requirements where conditions of moisture or heat are present.



Q: WHAT DO ROZONE TESTS SHOW?

A:
1. High resistance to aging. Longevity of original characteristics.
2. On the basis of long-time test, dielectric strength exceeding 400 volts per mil, for 5,000 volt services. Surge or impulse strength proportionately high.
3. Utmost resistance to corona and ozone cutting.
4. Low dielectric loss.
5. Exceptional electrical stability in water.

The Rome Power and Control Cable Catalog contains complete information on Rome RoZone. Send for your copy today!

It Costs Less To Buy the Best

RoZone is approved and accepted by leading utilities, industrials and consulting engineers.

ROME CABLE
Corporation
ROME • NEW YORK
and
TORRANCE • CALIFORNIA

ROME CABLE ROME, N.Y.

with KEX wiping towels...



"I decided long ago to stop buying scrap rags and waste by the pound and switch to Kex wiping towels because a lot of the stuff we were getting wasn't usable. It had no uniformity and the men had to pick and choose the right piece for every job. That isn't true with Kex—every square inch is usable.

"After the first few months of using Kex Service my month-end cost for wipers was down substantially! The men have a uniformly-sized, absorbent towel for every job. And we don't run the risk of scratching or damaging delicate precision machinery."



YOU DON'T BUY A THING—just pay a low monthly rental. Kex towels are distributed nationally—for complete information, see your Classified Telephone Directory for nearest Kex distributor, or write Kex National Service, 295 Fifth Avenue, New York 16, N.Y.

"KEX" NATIONAL SERVICE

REG. U.S. PAT. OFF.

KEX NATIONAL SERVICE

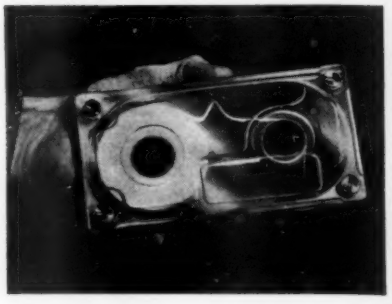
It isn't Kex unless it's imprinted with the Kex name

(*Continued from page* 136)

by a pivot which allows the unit to conform automatically to the size of the load. By eliminating flexing of the cable where it enters the fitting, this prolongs the life of the cable.

No. 110 — Use Coupon on Page 126

Magazine Recorder Gives Facts in New Fields



Monitoring and obtaining information in many fields heretofore inaccessible is possible with a new, simple magazine recorder, claims Alden Electronic and Impulse Recording Equipment Co., Westboro, Mass. Recorders can be easily set up to cover variable factors in traffic, time and motion study, punch press operation, duration of current flow, stresses and strains, etc. It records permanently—without pen and ink, photographic delay, inertia, or delicate moving parts—on a supersensitive direct recording paper known as Alfax. To operate, all you do is plug the recorder into a 110-volt source, connect with a microswitch to what is being monitored. The magazine may be sent intact to any point for interpretation.

No. 111 — Use Coupon on Page 126

Cold Heading Die Steel

A completely new approach to the development of an improved die steel for cold heading dies is what Allegheny Ludlum Steel Corp. calls its "Alhead" tool steel. It makes available for the first time a higher alloy steel that can be water hardened exactly the same as the straight carbon or carbon vandium steels formerly used for cold-heading dies, but has much greater wear-resistance and will produce many more parts in service. Repeated production runs on "Alhead" cold heading dies indicate a die life of two to four times greater than steels available in the past, the company reports. Allegheny Ludlum is in the Oliver Building, Pittsburgh 22, Pa.

No. 112 — Use Coupon on Page 126

(*Please turn to page* 140)

for "Bridgeport" *Service*

BRASS
CO.



OFFICES AND WAREHOUSES IN PRINCIPAL CITIES



BRIDGEPORT WAREHOUSE SERVICE

The Bridgeport warehouses are designed to supply from stock limited quantities of sheet, rod, wire or tubing. It is the policy of the company to maintain adequate warehouse stocks at all times so that small orders can be filled without delay.

The fabricator is in a position to obtain promptly metal to fill orders for experimental work or to start production runs, while waiting for mill shipments.

Bridgeport warehouses make every effort to carry the variety of alloys, sizes and gages which fulfill the requirements of the locality they serve.

To take care of the maximum range of widths of strip metal, slitting service is available—not only to serve warehouse stocks, but also to make customers' stocks of non-ferrous strip metal more flexible.

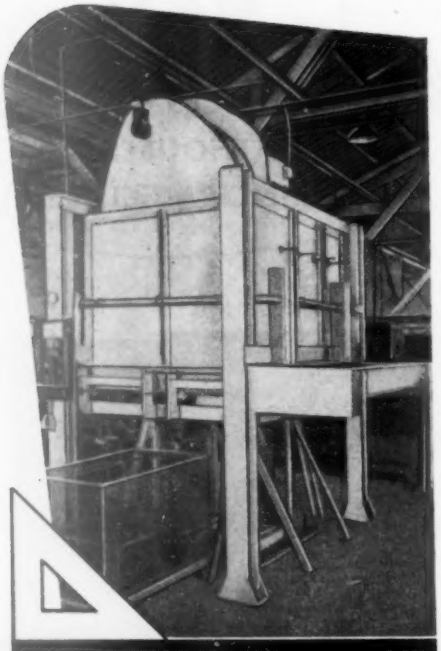
Bridgeport's Warehouse Stocklist carries weight tables and a technical digest giving the properties of the most popular copper-base alloys. If you do not have a copy, ask your nearest Bridgeport office.

Mills in Bridgeport, Conn. and Indianapolis, Ind.
In Canada: Noranda Copper and Brass Limited, Montreal

BRIDGEPORT BRASS COMPANY

"Bridgeport" BRASS CO.

30 GRAND STREET, BRIDGEPORT 2, CONNECTICUT



ENGINEERED FOR ECONOMY

It's easier to meet aircraft production schedules when plants are equipped with KNAPP equipment.

From long experience, Knapp engineers have learned how to design heat treating furnaces that meet every requirement of the Armed Forces... and to meet these requirements with an eye toward cost.

That's why every Knapp furnace is "engineered for economy"—the economy that spells the difference between profit and loss on difficult defense contract assignments.

Be sure—Be Safe! Call a Knapp engineer today for full information on how to whip heat treating problems in your plant. Remember, important defense contracts may pass you by if your heat processing equipment is inadequate. So, write, wire or phone today.

JAMES H. KNAPP COMPANY
INCORPORATED
839-841 EAST FOURTH STREET
LOS ANGELES 13, CALIFORNIA

Sealed Ball Bearings

An exclusive design provides effective sealing—keeping dirt out and lubricant in—in the new sealed ball bearings announced by SKF Industries, Inc., Box 6731, Philadelphia 32, Pa. Known as Red Seal bearings, they are interchangeable with conventional non-sealed bearings. The seal is made of Du Pont Fairprene, and is not affected by petroleum-base lubricants, normal operating temperatures, or aging. It extends below the steel retaining ring, forming a flexible lip which lightly touches a smooth, uniform chamfer of the inner ring. The bearings are supplied in standard single-row S.A.E. widths, with any combination of snap rings and metal shields.

No. 113 — Use Coupon on Page 126

Permits Belt Grinding With Portable Tools



Carborundum Co. and Buckeye Tool Corp. have come up with an attachment that offers a completely new concept of portable grinding. It permits the use of abrasive belts on straight spindle air and electric portable tools. The attachment consists of an idler pulley, the supporting mechanism, and a contact wheel; the latter mounted on the tool spindle. The unit is attached by a split bracket to the casing of the tool where grinding wheel guards are normally mounted. The bracket makes the attachment adaptable to almost any portable tool of the proper speed and type. In applications where the attachment has successfully replaced other abrasive methods, total operating costs are said to be reduced up to 50%. Two models are available, from The Carborundum Co., Niagara Falls, N.Y., or the Buckeye Tool Corp., Dayton, O.

No. 114 — Use Coupon on Page 126

(*Please turn to page* 142)

any shape... any material...

SHORT RUN STAMPINGS

Exclusive *Fast-Tooling* process saves up to 80% of conventional tooling costs and enables HPL to produce stampings economically in lots of 25 to 25,000 pieces. Parts for experimental or development work or other limited quantity requirements are produced to your most rigid specifications.

The HPL method permits minor die changes to be made quickly and inexpensively and provides for free maintenance of dies for all future orders. Speedy delivery is available on parts made from any material that can be stamped. Send sample part or blueprint for quotation.

BLANKING • PIERCING • FORMING
DRAWING • DRILLING • COUNTERSINKING
TAPPING • EXTRUDING • STENCILING

Write today for Bulletin No. 718





716-HPL

Manufacturing Co.

15255 Miles Ave. • Cleveland 28, Ohio



Sign of Dependability

Dependability . . . the kind you get from the high-tensile strength fabric and the rugged, tight-grip adhesive of U.S. Security Tape. What is more, Security has high dielectric strength, is straight-tearing, non-ravelling, has no pinholes to cause troublesome leaks.

U.S. Security *Rubber* Tape is unbeatable for perfect splicing when used with U.S. Security *Friction* Tape.

QUALITY PRODUCTS OF
U.S.RUBBER
SERVING THROUGH SCIENCE

UNITED STATES RUBBER COMPANY

TAPE DEPARTMENT • ROCKEFELLER CENTER, NEW YORK 20, N. Y.

..to 95° below zero

REVCO SUB-ZERO CHESTS



For Industrial Processing, Aviation, Chemical, Plastics, Oil, Rubber, and Research-Lab Work

AVAILABLE NOW

REVCO Sub-Zero Chest For Testing, For Shrink Fits, For Seasoning Gauges and Precision Tools . . . Completely equipped ready for operation, will accommodate parts or assembled units up to 23" long, 12½" deep, 9" high in the 1.5 Cu. Ft. model and up to 47" long, 16" deep and 15" high in the 6.5 Cu. Ft. model. Revco Sub-Zero Chests are designed and built to meet highest performance standards. They feature temperatures of 95° and 85° below zero, respectively, upon continuous running in normal room temperature. Other controlled Low-Temperatures readily attained.

REVCO *Rivet Coolers*

For AIRCRAFT APPLICATION

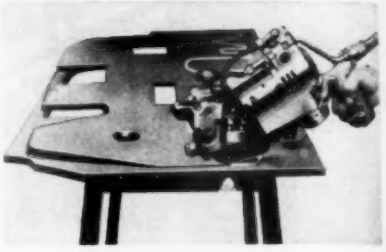
Equipped with 90 rivet canisters, each 2" in diameter and 7½" long. Six convenient racks each hold 15 canisters. Operates efficiently at temperatures as low as minus 30°F.



Write for Complete Specifications & Prices

Revco, Inc. DEERFIELD, MICH.

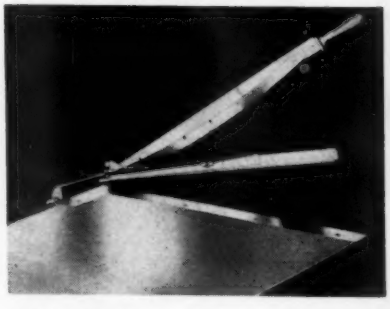
Hand-Operated Flame Cutter Is Portable



If you can use a flame cutter but not enough to justify the purchase of a large machine, you may be interested in the Cadet, a portable, hand-operated unit made by American Pullmax Co., Inc., 2455 N. Sheffield Ave., Chicago, Ill. The machine will do plate cutting from 5/64" to 2¼". It will do straight cutting and I-beam cutting, and circle cutting to a radius of 1". It will also do bevel cutting. A table is attached to the machine giving proper selection of cutting speed, oxygen pressure and torch tips—even the correct distance between tips and work surface. All parts are easily accessible and interchangeable.

No. 115 — Use Coupon on Page 126

Bench Model Cutter Is Light, Versatile



The Jacques, Jr. bench model cutter is adaptable to many cutting jobs—in paper, plastics, rubber, and other light materials. Hobbs Mfg. Co., 26 Salisbury St., Worcester, Mass., the maker, says the machine is especially useful in cutting continuous material from rolls or strips. (Similar models were formerly made by the Alfa Machine Co.). Among the cutter's features: an automatic clamp which securely holds material to be cut; spring tension guide to press entire blade against guide, assuring clean, accurate cuts without adjustments; safety spring to hold blade in open position and prevent accidental dropping and cutting. Cutter is available in three different sizes to cut up to 24", 30", or 36" widths.

No. 116 — Use Coupon on Page 126

(*Please turn to page* 144)

ADJUSTABLE PIPE HANGERS AND SUPPORTS

for every piping requirement

NO. 4 OF A SERIES SHOWING THE GRINNELL LINE

BRACKETS, HOOKS, CLAMPS for attachment to walls, columns and beams



Light Welded Steel Bracket
fig. 194
max. load: 750 lb.



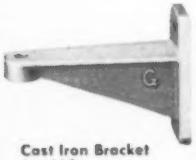
Medium Welded Steel Bracket
fig. 195, max. load: 1500 lb.
heavy welded steel bracket
fig. 199, max. load: 3000 lb.



Side Beam Bracket
fig. 202
load: 150 to 2300 lb.



Side Column Bracket
fig. 203
load: 150 to 390 lb.



Cast Iron Bracket
fig. 223
load: 610 lb.



Cantilever Bracket
fig. 221
with angle iron ext.
fig. 222



Single Hook
fig. 168
½ to 3 IPS



One Hole Clamp
fig. 126
⅜ to 4 IPS

FLANGES, CLIPS, HOOKS for attachment to the ceiling



Adj. Swinging Hanger Flange
fig. 155, for ⅜ to ⅞ in. rod
flange only
fig. 156, for ¾ to 12 in. pipe



Swivel Hanger Flange
fig. 154
for ⅜ to ⅞ in. rod



Pipe Hanger Flange
fig. 153
for ⅜ to ⅞ in. rod



Ceiling Flange
fig. 128
for ⅛ to ¾ IPS



Adj. Clip Base
fig. 116
for ¾ to 2 in. pipe
⅜ in. rod size



Wrought Clip, Long
fig. 263
short: fig. 262
½ to 4 in. pipe



Tin Clip
fig. 231
¼ to 2 in.



U Hook
fig. 205
¾ to 8 in. pipe

Call Your Local Grinnell Distributor or write for Hanger Catalog.

GRINNELL

AMERICA'S #1 SUPPLIER OF PIPE HANGERS AND SUPPORTS

Grinnell Company, Inc., Providence, Rhode Island • Coast-to-Coast Network of Branch Warehouses and Distributors

Manufacturer of: pipe fittings • welding fittings • forged steel flanges • steel nipples • engineered pipe hangers and supports
Thermolier unit heaters • Grinnell-Saunders diaphragm valves • prefabricated piping • Grinnell automatic fire protection systems



the easy way

Here's how to get efficient metal-cutting the *easy* way: Tell your supplier you want VICTOR hand and power hacksaw blades and flexible-back band saws, the brand most people buy.

Then ask him for a supply of VICTOR Metal-cutting Booklets — full of timely authoritative information on the selection, use and care of *any* blades, full of handy hints on fast, efficient metal-cutting.

That's all there is to getting metal-cutting efficiency the easy way.

Sold only through recognized distributors

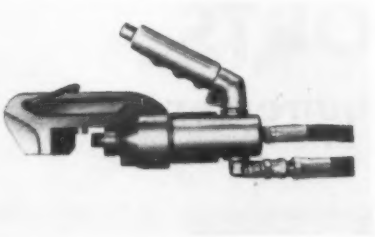
VICTOR

1080A

SAW WORKS, INC. • MIDDLETOWN, N.Y., U.S.A.

Makers of Hand and Power Hack Saw Blades, Frames and Metal Cutting Band Saw Blades

Steel Rod Cutter Gives Rapid Production



Push-button operation of this Model 200-E Guillotine eliminates operator fatigue and increases production in cutting of steel rod up to ½" says Manco Mfg. Co., Bradley, Ill. Complete cutting cycle takes only a quarter of a second. The unit exerts up to 20 tons thrust from a portable high-speed hydraulic pump and a 2 hp motor connected to a 25' hose. Blades are easily removable for sharpening. The tool is also adaptable to high-speed riveting, punching and swedging operations. This model is also available with hot cutting extension equipment.

No. 117 — Use Coupon on Page 126

Coating Gives Uprights Protection from Fire



Illustration shows how a new coating for wood uprights protects them against fire. The photo was taken after a straw fire had raged about the two posts for 16 minutes without any external fire-extinguishing attempt. The post at left—protected with Fireplate, the new coating—is free of fire and unharmed. The right timber, unprotected, burns briskly. The Zone Company, Fort Worth, Tex., the maker, says Fireplate embodies a jelling agent which keeps the coating from melting and running with heat; and chemicals which, when heated, release fire-smothering gases.

No. 118 — Use Coupon on Page 126

(*Please turn to page* 148)

NEED "Special" CHAIN HOISTS?

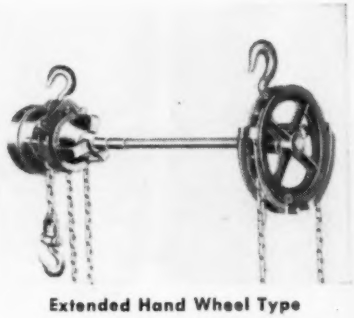
Call on

CHESTER

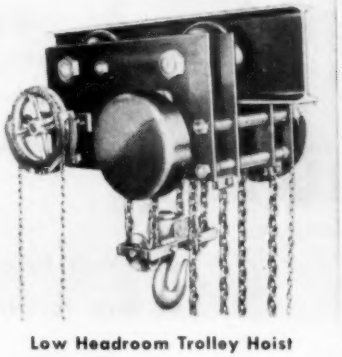
In addition to a complete line of Spur-Geared and Differential Chain Hoists, Chester is in a position to move fast on orders for special types.

For example, we can furnish Low Headroom Trolley Hoists for buildings where no other type of hoist can be used. We can also adapt our standard Spur-Geared Hoists to the Extended Hand Wheel Type—ideal for handling hot materials from a safe distance, for moving work whose surface must be protected against scratching by the hand chain, or for large flat or bulky loads.

Why not ask your distributor, or write us today, for the Chester catalog, and tell us your "special" problems?



Extended Hand Wheel Type



Low Headroom Trolley Hoist

CHESTER HOIST DIVISION

The National Screw & Mfg. Co.

Lisbon, Ohio

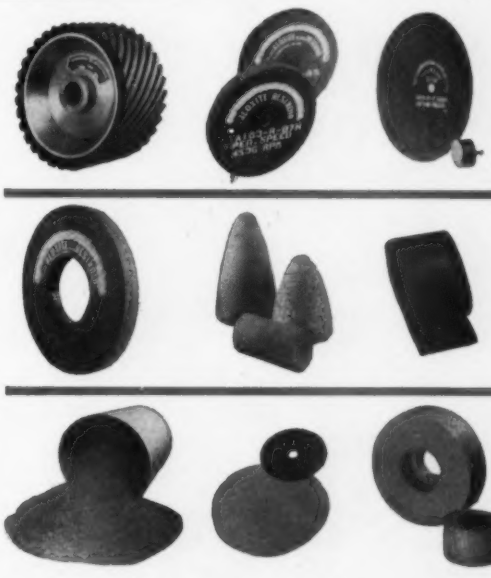
BRAND-NEW abrasive ideas!

Within the past thirty days, two entirely new concepts in grinding have been brought to you through CARBORUNDUM engineering. Backed by long months and years of design and development work, these new techniques are now ready to go to work, earning a bigger profit for you.

You can profit by both of these brand-new developments—for they have been created with just one purpose in mind... to cut your grinding and polishing costs to the bone. Both new products happen to apply to abrasive *belt* performance—the "61" Port-A-Belt which now makes portable belt grinding a reality—the "T-61" Hub Wheel which can cut contact wheel replacement costs in half. Next month, the headline development might be a new abrasive *wheel.* That's the tremendous and exclusive advantage you enjoy in doing business with CARBORUNDUM. Offering *all* abrasive products, we have just one axe to grind... yours!

You benefit when you call in your CARBORUNDUM or distributor salesman on any abrasive problem you have. Nowhere else can you get the unbiased counsel you have a right to expect. You'll find him listed in the yellow pages under "Abrasives." Call him today—it's to your profit!





Here are only a few of the 30,000 reasons why you get the RIGHT combination of abrasive and method only from CARBORUNDUM

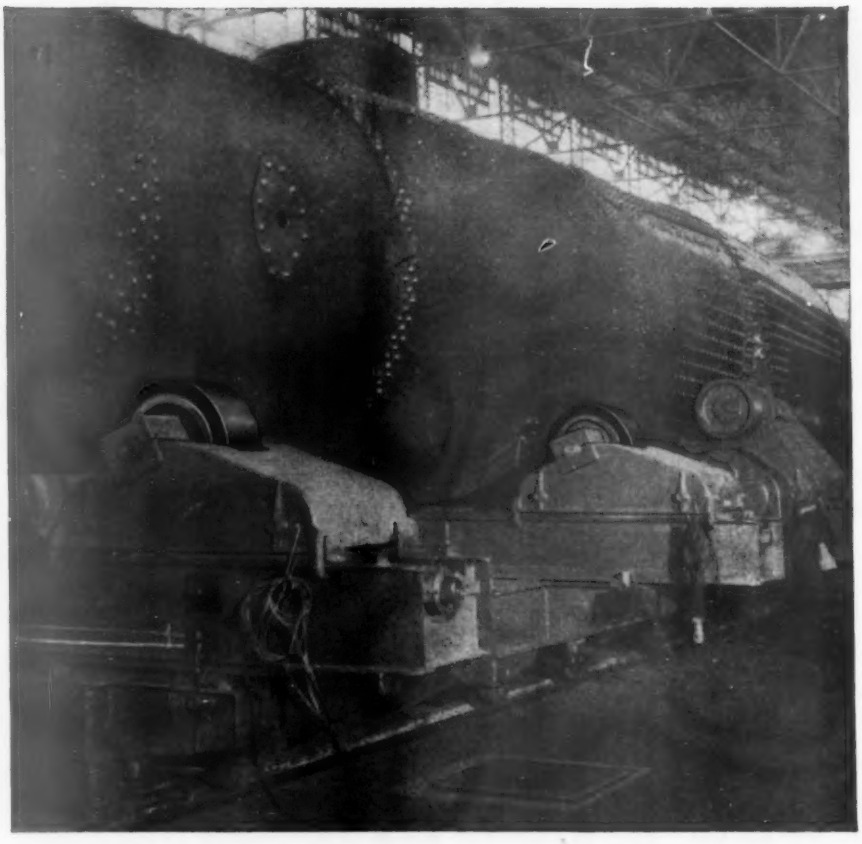


RUNDUM

MARK

for the NEW developments in ALL abrasive products

80-55



...it's rotated by rubber covered rolls

Imagine 50 tons of locomotive boiler cradled on and *rotated by* four rubber covered rolls! These power driven rolls turn the boiler slowly so that the seams can be welded continuously. It's a truly punishing assignment for rubber . . . one that demands extraordinary shear and abrasion resistance.

The special rubber compound developed for these rolls by Continental does an outstanding job. Actually, the service life of the rolls has far exceeded even the customer's expectations.

The successful solution of this difficult requirement is typical of the engineering service in rubber offered by Continental.

When *you* need molded or extruded rubber, call on Continental. Our engineers will be glad to consult with you.



LET US SEND YOU THIS CATALOG

Hundreds of standard grommets, bushings, rings, and extruded shapes are listed in this engineering catalog. It will be a valuable addition to your working file. Send for your copy today or . . .

See our Catalog in Sweet's File for Product Designers

MANUFACTURERS SINCE 1903

CONTINENTAL

RUBBER WORKS

1983 LIBERTY BOULEVARD • ERIE 6, PENNSYLVANIA

Greater Vision In New Safety Goggle



A transparent plastic frame which gives a greater field of vision is a feature of American Optical Company's latest safety goggle. The goggle is recommended for wear directly over the eyes or over spectacles. It is said to be particularly useful for frontal protection against foreign particles on machine and hand tool work, bottling, chemical and physical laboratory work, spot welding, light grinding, light chipping, and light riveting. AO is at Southbridge, Mass.

No. 119 — Use Coupon on Page 126

Carton Clamp Attachment Eliminates Pallets



Low-cost unpalletized handling of a wide variety of different size cartons is now possible with a new carton clamp for fork trucks available from The Yale & Towne Mfg. Co., Philadelphia Division, Philadelphia 15, Pa. The clamp arms are articulated to equalize pressure on the cartons being lifted. An adjustable regulator permits clamping pressure adjustment over a wide range, as determined by the weight of the cartons. It also prevents crushing of the cartons by limiting clamping pressure. In one application, one, two, four, six, or eight television sets can be handled at a time in an appliance warehouse. The cartons are stacked four high without the use of pallets or racks.

No. 120 — Use Coupon on Page 126

(*Please turn to page* 152)

Only modern motors and controls give you these features

Motors and controls have been built much the same way for years. Motors required frequent lubrication . . . controls needed constant maintenance. But, you can get really modern equipment built to standards that match today's speeded production requirements.

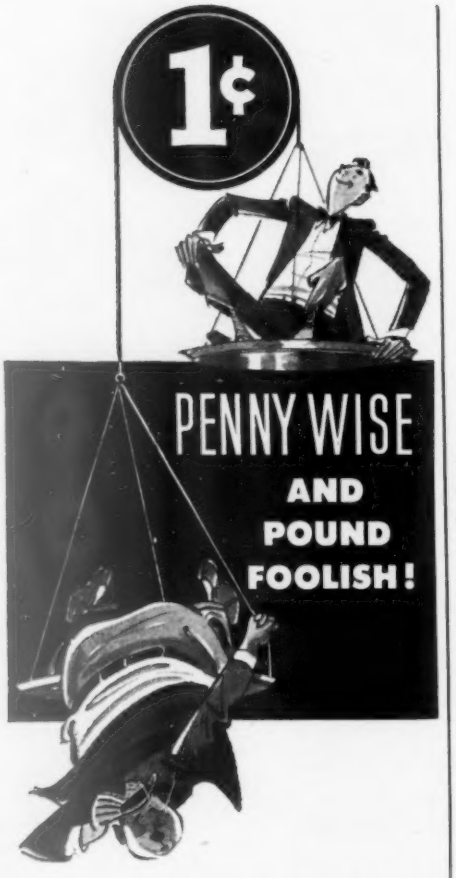
"De-ion®" arc quenching used on Life-Linestarters® has proved the most efficient method of increasing contact life and interrupting capacity. Pictured on the left is the exclusive Westinghouse "De-ion" Quencher at work. In 1/120 of a second, arcs are confined, divided, extinguished—a *basic* to long contact life and equipment protection. It's the last word in arc quenching. Combined with silver contacts, this "De-ion" principle eliminates the need for constant contact maintenance. Contacts *never need* filing.

Pre-lubricated bearings on Life-Line motors have introduced new freedom from motor maintenance. You can throw your grease guns away. You eliminate bearing failures due to overlubrication, under lubrication, and from entrance of dirt into bearings. Result is reduction of motor down time. Certainly, the way to grease a modern motor is *don't.* Results of over half a million Life-Line motors serving every phase of industry show motor failures cut in half!

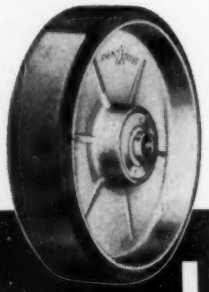
It's this kind of advanced features that puts Life-Line motors and Life-Linestarters years ahead of conventional equipment. Get all the reasons why. Ask your Westinghouse representative for full details, or write Westinghouse Electric Corporation, P. O. Box 868, Pittsburgh 30, Pennsylvania. J-21693

YOU CAN BE SURE...IF IT'S Westinghouse

Life-Line MOTORS and CONTROLS



Save a penny!—Lose a dollar? Yes, the country over there are literally thousands of materials handling equipment buyers who are doing just that! Those immediate 'penny-savings' keep them up on top for awhile, but when time runs its race these buyers find they're high and dry . . . Those pennies they saved turn into dollars lost . . . lost due to excessive maintenance costs. Smart, "pound-wise" buyers are setting new records in reduced maintenance costs with Aerol's quality-plus equipment. Positive pressure sealed hubs prevent foreign matter from attacking and destroying vital bearings. Timken tapered roller bearings guarantee greater rollability . . . and Aerol's 'lubricated for life' wheel frees maintenance men for other important tasks.

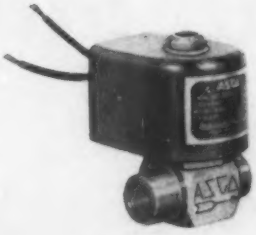


CONCENTRATE ON aerol

AEROL CO. INC. 2424 San Fernando Road
Los Angeles 65, Calif.

NO WHEEL ROLLS LIKE AN AEROL

Solenoid Shut-off Valve With Time Delay



A new "midget" solenoid shut-off valve has a time delay mechanism which holds back the flow of liquid or gas through the valve for approximately 5½ seconds after the solenoid becomes energized. The valve can be installed in any position without affecting the time delay action. Shut-off is instantaneous and positive. Overall size, top to bottom, is 2-13/16". A similar 3-way valve with time delay feature is available. The valve has ⅛" pipe connection and full 1/16" port for pressures up to 150 lbs. with 15 gals. per hour flow. Made by Automatic Switch Co., Orange, N. J.

No. 121 — Use Coupon on Page 126

Bench Grinder Handles Large, Odd-Shaped Parts



Stanley's new style ¼ hp ball bearing bench grinder, No. 246, is designed to overcome difficulties in handling large, odd-shaped parts and castings on smaller grinders. Flat surface of the grinder housing permits the operator to maneuver castings or parts to be ground so that both sides of each grinding wheel may be used. The grinder is equipped with adjustable tool rests and safety wheel guards which are wide enough to permit use of wire wheel brushes. Guards are drilled for mounting eyeshields. The machine is said to be particularly suited for use in factories for light and general grinding. Stanley Electric Tools is at New Britain, Conn.

No. 122 — Use Coupon on Page 126

(*Please turn to page* 154)

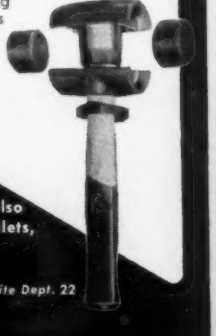
UNEQUALLED for safe, hard blows



A perfectly balanced tool. Tough, resilient water buffalo rawhide faces deliver needed power, yet protect fine finishes and delicate parts. Faces quickly and easily replaceable. Safety-Flare handle gives comfortable grip and prevents slipping. When you need a "soft" hammer, make sure it's a C/R ***Rawhide*** Jaw-head.

FACES REPLACED IN SECONDS

Merely loosening a nut releases jaws for replacing faces. When nut is tightened, faces are held in a vise-like grip.

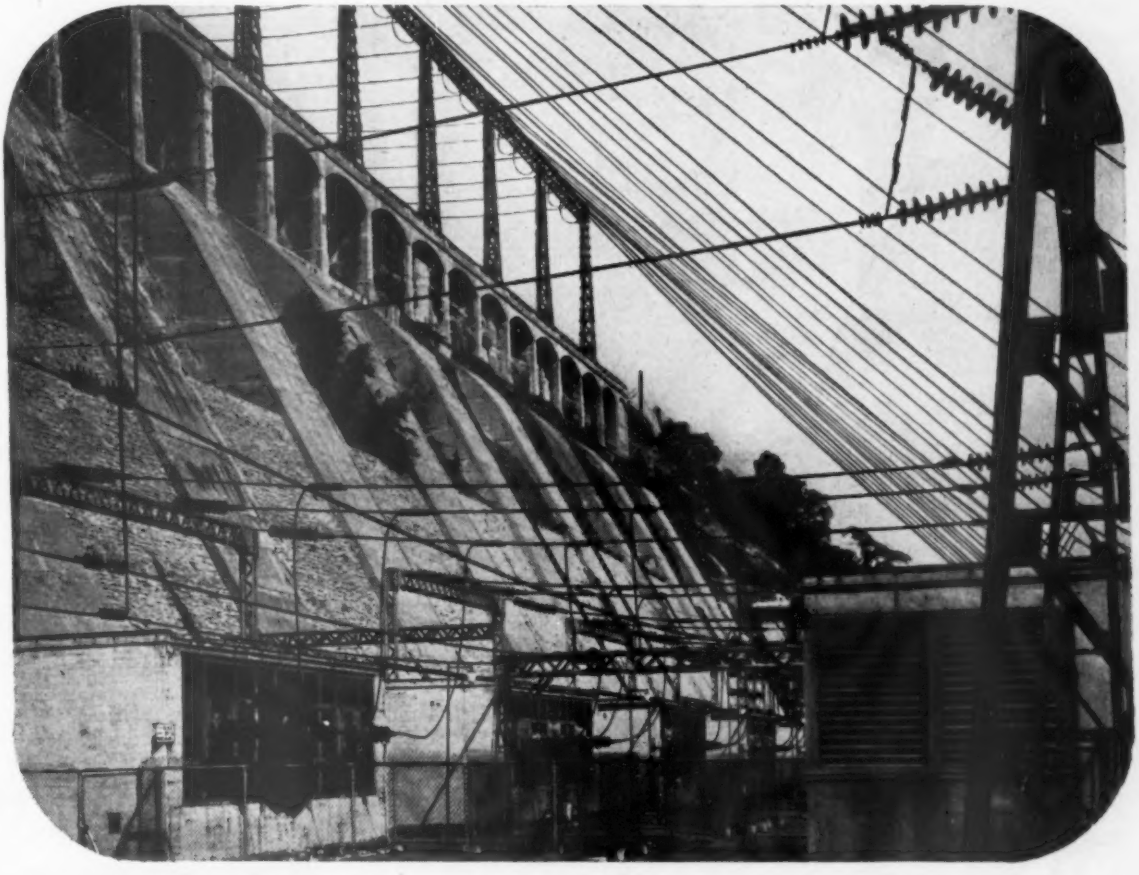


• Available from leading industrial suppliers. Also C/R Rawhide mallets, mauls, solid head hammers.

For further information write Dept. 22

CHICAGO Rawhide MFG. CO.
1301 Elston Ave., Chicago 22, Ill.
In Canada: Super Oil Seal Mfg. Co., Ltd., Hamilton, Ontario

V. C. CABLE



Specify Roebling V. C. Cable for top resistance to heat, oil and grease

THROUGH continual laboratory developments and progressive manufacturing methods, Roebling Varnished Cambric Cable has been constantly improved. Today this cable has absolutely top resistance to heat, oil and grease . . . and it's the most dependable cable you can use for leads on generators, transformers, motor and oil switches, and for general distribution of heavy power loads in manufacturing and industrial plants.

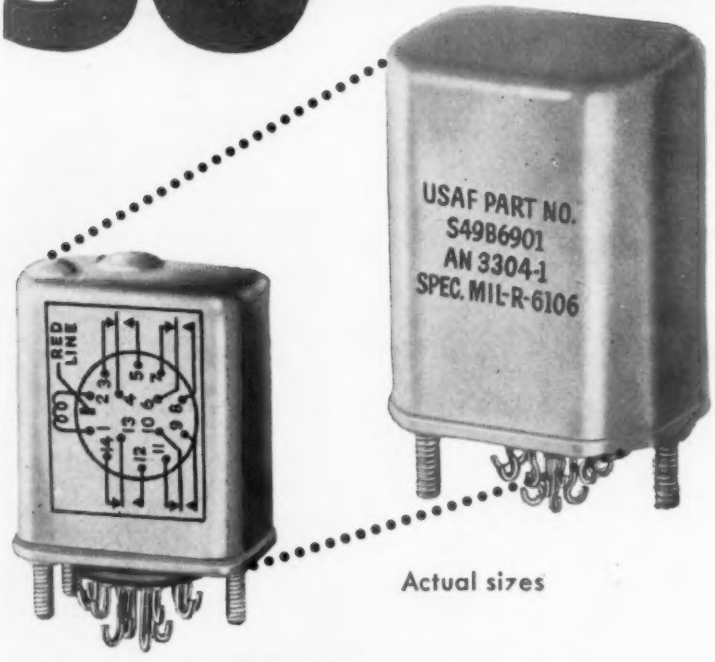
Roebling V.C. is made in single conductor sizes from 2,000,000 C.M. to #14 A.W.G.; in multiple conductor sizes from 750,000 C.M. to #14 A.W.G. Recommended for use to 17,000v between phases in single or multiple conductor construction; and to 26,000v for single conductor grounded neutral.

Large quantities of Roebling's complete wire and cable line are now required for rearmament. We and our distributors will, however, do all that we can to meet your needs. John A. Roebling's Sons Company, Trenton 2, N. J.

ROEBLING

ATLANTA, 934 AVON AVE • BOSTON, 51 SLEEPER ST & 5 PITTSBURGH ST • CHICAGO, 5525 W. ROOSEVELT RD • CINCINNATI, 3253 FREDONIA AVE • CLEVELAND, 701 ST. CLAIR AVE, N. E. • DENVER, 4801 JACKSON ST • DETROIT, 915 FISHER BLDG • HOUSTON, 6216 NAVIGATION BLVD • LOS ANGELES, 5340 E. HARBOR ST & 120 S. HEWITT ST • NEW YORK, 19 RECTOR ST • ODESSA, TEXAS, 1920 E. 2ND ST • PHILADELPHIA, 230 VINE ST • PITTSBURGH 1301 CLARK BLDG • ROCHESTER, 1 FLINT ST • SAN FRANCISCO, 1740 17TH ST • SEATTLE, 900 1ST AVE S. • ST. LOUIS, 3001 DELMAR BLVD • TULSA, 321 N. CHEYENNE ST • EXPORT SALES OFFICE, TRENTON 2, NEW JERSEY

50% SMALLER LIGHTER



Actual sizes

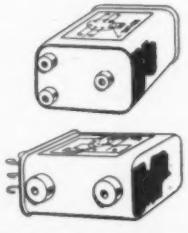
R-B-M 22300 SERIES

Hermetically Sealed Relays

The R-B-M 22300 hermetically sealed telephone type relay is the electrical and mechanical equivalent of AN 3304-1, except for smaller size and mounting dimensions.

An improved armature design, plus high temperature molded nylon coil bobbin, provides greatly improved magnetic efficiency and enables R-B-M to reduce the overall size of the relay. The R-B-M 22300 design still retains palladium cross-bar contacts identical to those used in the larger size.

Maximum contacts—6 Form A and 4 Form C—3 ampere 28 Volts. D. C. coil construction only. Maximum coil resistance 5000 ohms. Minimum power .75 watts. Also available in AN 3304 can for dynamotor or low capacitance application.



Optional Mounting Arrangements

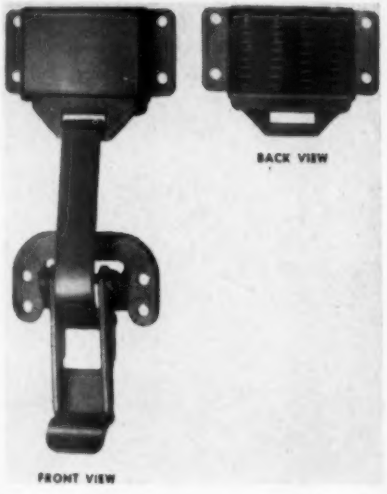
Write Dept. J-7 for ASR Bulletin.

RBM

R-B-M DIVISION
ESSEX WIRE CORP.
Logansport, Indiana

MANUAL AND MAGNETIC ELECTRIC CONTROLS
—FOR AUTOMOTIVE, INDUSTRIAL, COMMUNICATION AND ELECTRONIC USE

Clamp Withstands Rough Handling and Vibration



Even the most severe vibration and rough handling won't bother this new clamp and latch fastener, says The Bassick Company, Bridgeport 2, Conn. Its design also minimizes the tendency of many clamps to open on impact. The striker incorporates four coil springs compactly arranged, and gives as much as a 100 lb. pull on the latch lever, yet permits easy opening and closing by hand. Bassick calls the latch ideal for use in sub-zero temperatures and points out that it is not a "knuckle breaker."

No. 123 — Use Coupon on Page 126

Power Tool Gives Precise Torque Control



Too much torque in certain production jobs will cause breakage or distortion of light metal parts, castings or plastics. Garvin Brothers, Inc., P. O. Box 536, South Bend 24, Ind., has an air-powered nut runner Power Torque Tool Model MA-25, for just such jobs. It gives precise torque control in the 0-25 inch-pound range. Special gearing is available to extend the range to 40 inch-pounds. The desired torque

(*Please turn to page* 156)



It's EMERY— on the first Ballot!

Emery's AIR PROCUREMENT SERVICE . . . overwhelming choice of traffic, purchasing and production executives to get faster, more dependable delivery of needed parts from any point in the Nation right to production lines!

EMERY is the ONLY Transportation System in the World that uses *all* airlines, *all* surface transportation—passenger or cargo, express or freight—everything that moves in the air and on the ground. And Emery is on the job 24 hours a day, 365 days a year. That's why Emery beats ordinary air shipping services by hours, even days.

Just a 'phone call—that's all—and Emery's nation-wide network of personal expediters springs to your service. Emery's AIR PROCUREMENT SERVICE brings your air shipments right to your door from any point in the Nation—faster and more dependably—and *alerts you well in advance if delivery is unavoidably delayed.*

And you get all this for the cost of the transportation alone!

Call your local Emery office today, and let "The World's Fastest Transportation System" take over your procurement problems. You'll find out why Emery is the overwhelming choice of traffic and procurement executives everywhere!

EMERY AIR FREIGHT CORPORATION

General Office: 801 Second Avenue, New York 17, OREgon 9-1020

Offices in: Atlanta, Baltimore, Boston, Buffalo, Chicago, Cincinnati, Cleveland, Dallas, Dayton, Detroit, Hartford, Houston, Indianapolis, Kansas City, Los Angeles, Milwaukee, Minneapolis-St. Paul, Newark, Philadelphia, Pittsburgh, Rochester, St. Louis, San Francisco, Seattle, Syracuse, Washington, D.C. *Agents in all other major cities and towns in the U.S.A.*

WHY NOT cast a magnesium mousetrap?



Maybe it IS a lousy idea . . .

On the other hand, maybe it's as practical as using cheese for bait.

Frankly, we haven't gotten out a slide rule or put our thinking cap on tight, to figure it out one way or the other. Maybe the mice wouldn't go for it.

But we do know a lot of things WILL be cast in magnesium or aluminum after military requirements are satisfied.

A lot of things no one ever thought would be.

So whatever your plans are; whatever directions they might take; whatever products you might have on scraps of paper, in preliminary drawings, or just plain ideas-on-the-brain . . . . keep an open mind in terms of magnesium or aluminum in sand-cast, semi-permanent or permanent mold form.

Particularly Well-Cast castings.

Naturally.

Well-Made Wood and Metal Patterns • Ampco Bronze Castings

Almost a half-century of Experience

THE WELLMAN BRONZE & ALUMINUM CO.

DEPT. 17 12800 SHAKER BLVD. • CLEVELAND 20, OHIO

(*Continued from page* 154)

is easily set using the built-in torque wrench as a gage. The tool is extremely accurate (to 2% of torque limits), eliminating need for hand torquing inspections. The operator uses the tool as he would any nut runner. When pre-determined torque is reached, it stops automatically.

No. 124 — Use Coupon on Page 126

New Lathe



Atlas Press Company, 2340 N. Pitcher St., Kalamazoo, Mich., now making Clausing lathes, announces the 6300 Clausing lathe, illustrated, and the 4800 series Clausing. The 6300 features a forged, ground steel spindle, with 1" collet capacity, A.S.A.-L-100 tapered key drive nose. The 4800 has a Timken tapered roller bearing equipped spindle. Spindle is threaded, has ½" collet capacity. Condensed specifications: 24", 36" and 48" between centers; 12¾" swing over bed, 7½" over saddle; thread range 48—4 to 224 standard, right or left. Catalog available.

No. 125 — Use Coupon on Page 126

Metal Folding Tables Solve Space Problems



Here's a folding table that can help you not only to use available floor space, but to move equipment easily from slack departments to busier ones. The Howe table has a chassis of high grade carbon steel, riveted and welded throughout and tested to sustain a weight of 2000 lbs. Each leg has its own

(*Please turn to page* 158)

Now more important than ever to you...



Fast LOCAL delivery



Convenient LOCAL warehouses



On-the-spot LOCAL lubrication engineering

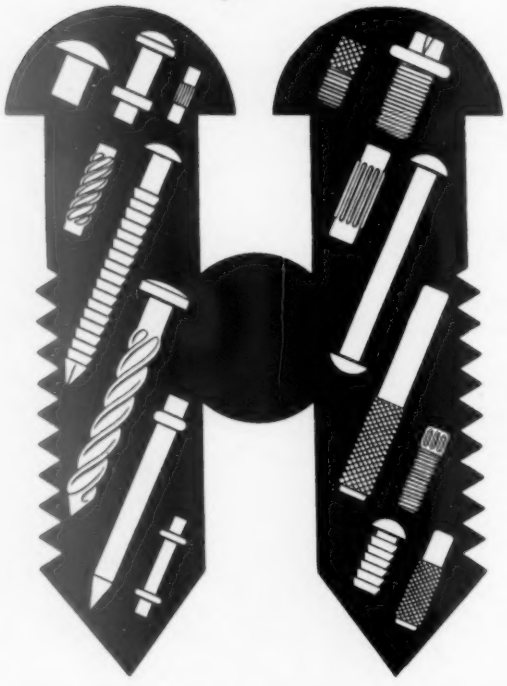
Standard's LOCAL Lubrication service

• Wherever you are located in the Midwest, there's a Standard service-supply center close at hand. That means prompt delivery of Standard products, immediate assistance from a Standard lubrication specialist.

There's no need to worry over possible production delays due to lack of the right cutting oil, lubricant, or fuel . . . no need to stock-pile these supplies in your own plant . . . no need to wait for help in solving your lubrication problems.

To take advantage of Standard's time-saving *local* lubrication service (now more important than ever to you) call the Standard office in your area. Or write: Standard Oil Company (Ind.), 910 South Michigan Avenue, Chicago 80, Ill.

STANDARD OIL COMPANY STANDARD (INDIANA)



Special cold headed products

. . . nails • rivets • screws

. . . made to order

. . . and to your specifications in any metal. Large raw material inventory for your convenience. Send drawing — advise quantity.

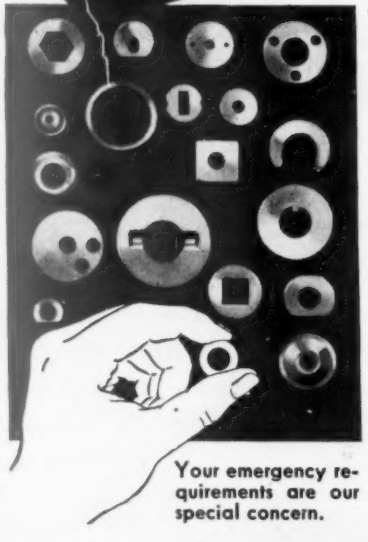
Free catalog on request.

JOHN HASSALL INC.

404 Oakland St.
Brooklyn 22, New York

Standard Specials

STEEL WASHERS *FOR EVERY NEED*



A DEPENDABLE SUPPLIER FOR 38 YEARS . . .

Your requirements for standard and special steel washers are sure to be satisfied at Joliet. A bank containing thousands of special dies in many shapes and forms, 9/32″ to 8″ O.D., gauges No. 28 to 3/8″, stands ready to answer your needs. A VARIETY OF FINISHES IS AVAILABLE to meet your special needs, including: Electro-plating, Galvanizing, Parkerizing, and Cyanide hardening.

After All!

THERE'S NO SUBSTITUTE FOR QUALITY AND SERVICE

Your emergency requirements are our special concern.

203 CONNELL AVE.
JOLIET, ILLINOIS

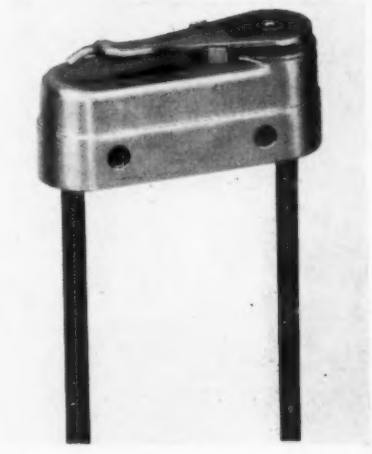
JOLIET WROUGHT WASHER CO.

(*Continued from page* 156)

strong lock and brace, yet there is only one release point for each pair of legs to make folding easier. In spite of the metal construction, the table is light and easily folded. It is made with plywood and pressed hardwood tops for shop use; linoleum tops for engineering rooms; and Formica tops for cafeterias. Standard heights are 29″ and 30″. The tables are self-adjusting on uneven floors. Made by Howe Folding Furniture, Inc., 1 Park Ave., New York 16, N. Y.

No. 126 — Use Coupon on Page 126

Snap-Action Switch Has Waterproof Leads



Latest product of Micro Switch, Freeport, Ill., is a waterproof snap-action switch incorporating potted, waterproof terminal leads and a hermetically sealed contact chamber. This new design, Type 4HS, makes possible the use of precision snap-action switches at locations subject to immersion. It is suited to aircraft, mobile and marine applications where moisture, dirt, or other environment could damage, reduce the capacity, or short the terminals of other switches. The switch is available with leads of any required length, and can be supplied with waterproof couplings. Its electrical rating is: 10 amps inductive load, or 25 amps resistive load, 28 volts d-c; 1 amp inductive or resistive load, 125 volts a-c.

No. 127 — Use Coupon on Page 126

High Speed, Ground Tool Bits

The du Mont Corporation, Greenfield, Mass., has a new line of tool bits said to be extraordinarily tough and resistant to abrasive action. The company states their performance compares favorably with

(*Please turn to page* 162)



A top P.A.'s thinking cap looks like this

WHEN buying component parts, a top P.A. thinks like four people instead of one. Thinking like a salesman, he picks extra-quality parts that add to the saleability of his company's products. As an engineer, he's interested in buying parts from a company that offers the most complete engineering service. Being advertising minded, too, he chooses parts that have wide public acceptance. And as a buyer, he's naturally conscious of price.

By taking the first three factors into account, you get a far more accurate picture of the real value of a part than you can with price alone. Here's a simple formula that shows you why:

$$Value = \frac{quality + service + public\ acceptance}{price}$$

Obviously the three factors above the line far outweigh the one below.

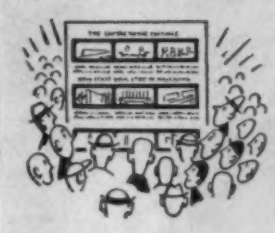
In tapered roller bearings the trade-mark "Timken" *means* value. That's because Timken® bearings assure you of the highest quality, the most extensive service support and the widest public acceptance (see P.A. Notes). The Timken Roller Bearing Company, Canton 6, Ohio. Canadian plant: St. Thomas, Ontario. Cable address: "TIMROSCO".



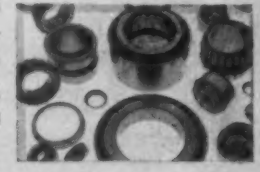
TIMKEN
TRADE-MARK REG. U. S. PAT. OFF.
TAPERED ROLLER BEARINGS

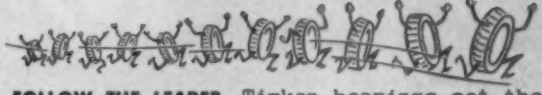
P. A. Notes:

MILLIONS WILL SEE IT. The extensive advertising program of the Timken Company will make an estimated 688,000,000 reader impressions this year. It's one big reason for the tremendous public acceptance of Timken bearings—and the extra sales plus they give your products.



26 DIFFERENT TYPES. No matter how many types and sizes of tapered roller bearings you need, you can get them all from one dependable source—the Timken Company. The Timken Engineering Journal lists 5850 sizes—26 different types.

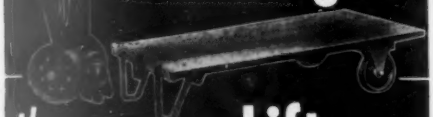




FOLLOW THE LEADER. Timken bearings set the standards for the industry. Others try to copy its designs, materials, tolerances, surface finish. But the quality of the Timken bearing remains unmatched.

NOT JUST A BALL ◯ NOT JUST A ROLLER ▭ THE TIMKEN TAPERED ROLLER ▭ BEARING TAKES RADIAL ▯ AND THRUST ↔▯↔ LOADS OR ANY COMBINATION ✳

In Materials-Handling...



the Colson® Lift-Jack System

Lets 1 Man do the work of 2

Through production, in and out of storage, on and off freight cars or trucks, COLSON Lift-Jacks easily double materials-handling efficiency—permit one man to do the work of two. You save time, money and manpower.

Other COLSON equipment includes drum and barrel trucks, platform trucks, hand trucks and precision-built wheels and casters for every industrial and commercial application.

Write us or consult the "yellow pages" (under "Trucks—Industrial" or "Casters") for the COLSON office near you.

THE COLSON CORPORATION
ELYRIA, OHIO

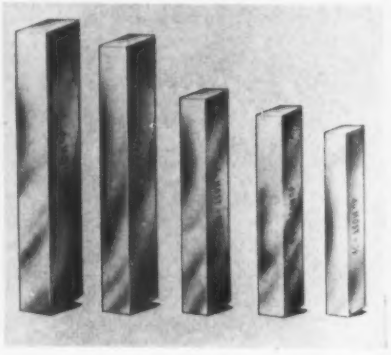
Please send free 56 page catalog—"Colson Materials-Handling Trucks."

Name_____
Position_____
Company_____
Street_____
City_____ Zone___ State_____

THE COLSON CORPORATION
ELYRIA, OHIO

(*Continued from page* 158)

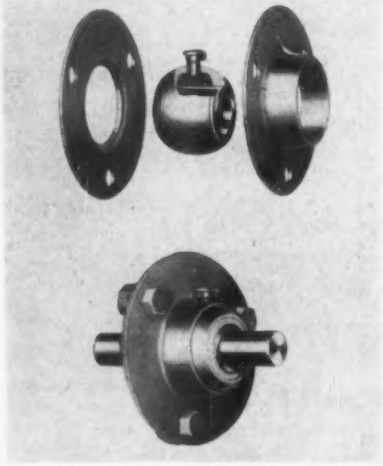
cobalt steel bits in all cases where extreme heat resistance is not the major factor. The bits are made of a special super H.S. steel with precisely blended and balanced carbon



and vanadium which produces extra fine grain structure. They are heat-treated to achieve 66 to 68 "C" scale Rockwell and are ground to close tolerances without decarburization. They are offered in squares with both ends beveled 20° in nine sizes, from ¼" square by 2½" long to 1" square by 7¼" long.

No. 128—Use Coupon on Page 126

Low Cost Flange Sleeve Bearing Unit



This compact, self-aligning, sleeve bearing unit, made by Randall Graphite Bearings, Inc., 1011 S. Greenlawn Ave., Lima, O., is designed for light shaft duty and power take off application on all types of sheet metal fabrications. Bearing assembly measures 3½" in diameter by 1¼" and is available with sintered bushing for shaft sizes ½", ⅝", ¾", 15/16", and 1", and with graphited bushings in sizes ½", ⅝", ¾". Heat increases the capillary action of the bushing, which feeds oil to the bearing surface, thus providing a unique self-lubricating feature.

No. 129 — Use Coupon on Page 126

(*Please turn to page* 164)



Darnell CASTERS

It's easy to select the right caster to meet your exact requirements from the Darnell line. There are nearly 4000 models from which to choose. All Darnell Casters and Wheels are pre-tested for efficiency and durability—you are assured a long life of satisfactory service.

FREE Manual

DARNELL CORP., LTD.
DOWNEY, (Los Angeles County) CALIF.

60 Walker Street, New York 13, N.Y.
36 North Clinton, Chicago 6, Illinois



...when you want the best

When you want a motor for use in explosive atmospheres, you *always* look for the Underwriters' label—assurance that the motor is approved for operation in Class 1 Group D hazardous locations.

Fairbanks-Morse Explosion-Proof Motors carry that label—your assurance of motor safety under this class of hazardous conditions.

Every Fairbanks-Morse Motor carries still another label—another assurance that you are getting the best in motor performance and service.

That label of confidence is the Fairbanks-Morse Seal.

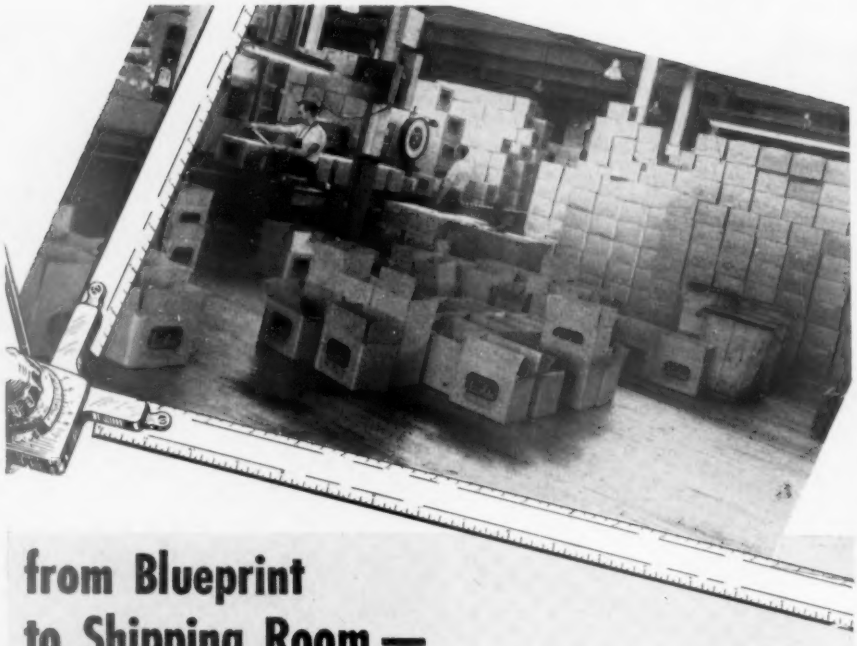
When you look for electric motors—for standard or unusual applications—*always* look for the Fairbanks-Morse Seal. For over 120 years it has stood for the finest in manufacturing integrity—to *all* industry. Fairbanks, Morse & Co., Chicago 5, Ill.



FAIRBANKS-MORSE,

a name worth remembering

ELECTRIC MOTORS AND GENERATORS • DIESEL LOCOMOTIVES AND ENGINES • PUMPS
SCALES • HOME WATER SERVICE EQUIPMENT • RAIL CARS • FARM MACHINERY • MAGNETOS



from Blueprint to Shipping Room — ACUSHNET Molded Rubber Parts are *Engineered* for Dependable Performance!

Every operation in the production of ACUSHNET precision-molded rubber parts is directly controlled by our Engineering Staff. An uncompromising Quality Control System requires rigid laboratory tests and certified approval at each stage of production before the job can be released for the next operation.

As a result, ACUSHNET parts are known throughout industry for their efficient, trouble-free performance in the countless assemblies of which they become integral members.

When your molded rubber parts require engineered precision — specify ACUSHNET.



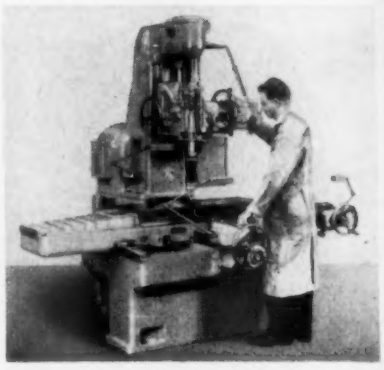
Acushnet PROCESS COMPANY

Send for your copy of the widely used "Acushnet Rubber Handbook", a comprehensive, practical rubber data reference.



Address all communications to 770 Belleville Ave., New Bedford, Mass.

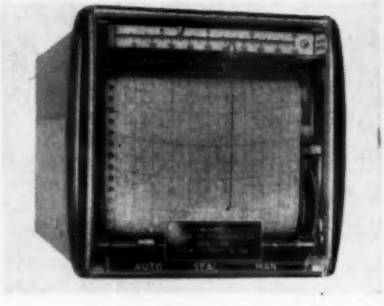
Small Size Jig Borer



Pratt & Whitney's new small-size jig borer, the second model of a new series, is the smallest of the machines featuring the Electrolimit measuring system. Designated the No. 1E, it is said to be an unusually accurate machine for precision locating, drilling and high-speed boring in small work. Design improvements in addition to the measuring system include: a heavier and wider bed construction, table and carriage way telescoping guards, a new design quill mounting and a handy control center for faster and easier operation. Two table sizes are available with increased longitudinal travel on the large size. Pratt & Whitney, Division Niles-Bement-Pond Company, is at West Hartford 1, Conn.

No. 130 — Use Coupon on Page 126

Panel Instruments Feature Compactness



A new Consotrol line of compact indicators, recorders, and controllers has been announced by The Foxboro Company, Foxboro, Mass. Model 52 Consotrol controller features a 4" indicating scale and a continuous valve position indicator. It occupies only 3½" by 6½" panel space, yet has all the operating characteristics of full-sized motion-balance units. Model 53 Consotrol recorder uses a full 4" strip chart to provide a 30-day process record on a single roll. Model 58 Consotrol controller is a new development in precision control, using a "floating

(*Please turn to page* 166)



You Always Know Where You Are . . . with BRASS

You can always chart a true course in production and marketing, when you work with Brass. For its "working behavior" on any job is well-known, always reliable, never erratic. Yes, Brass is easy to get along with, whether you're fabricator or user. And you'll never be left high and dry . . . like a major manufacturer who was forced to try a substitute material during the recent copper "shortage" . . . and who wound up paying more than $10,000,000 in free replacement parts to angry customers.

No, it shouldn't be long before there's a *shortage of shortages*. And so, in the words of the world's largest copper producer (a producer of many other metals as well): "On the basis of the facts, there is no need to consider long-range substitution of other materials for the red metal." For, when all is said and done, *there are* no *substitutes for Brass*. And if you are a user of Brass mill products, your inquiries are invited *now*.

• • •

The BRISTOL BRASS CORPORATION, makers of Brass since 1850 in Bristol, Conn. Offices or warehouses in Boston, Chicago, Cleveland, Dayton, Detroit, Los Angeles, Milwaukee, New York, Philadelphia, Pittsburgh, Providence, Rochester.

"Bristol-Fashion" means Brass at its Best

STANDARDIZE
ON STANDARD
HALLOWELL®
POSTURE STOOLS
AND CHAIRS



Look at these FEATURES:

- Posture back rests, interchangeable and adjustable
- Spring steel back bars for proper posture
- Seats dished for comfort, plain or Presdwood-covered
- Angle braces and angle legs for strength and rigidity

designed for comfort while working

This and other HALLOWELL Posture Stools and Chairs are described in Bulletin 704. Write for your copy. STANDARD PRESSED STEEL CO., Jenkintown 31, Pennsylvania.

HALLOWELL SHOP EQUIPMENT DIVISION SPS JENKINTOWN PENNSYLVANIA

FOR MALLEABLE IRON CASTINGS

. . . here are 3 ways to pick your source

1. ON SERVICE
2. ON PRICE
3. ON QUALITY

Which is most important to you? Perhaps (like most of our customers) — all three! Over a period of 50 years we have found this 3-point policy has satisfied many types of buyers in a wide range of industries.

At Moline Iron Works are the skill and capacity to provide malleable castings from one ounce to over one hundred pounds. In addition to foundry production, we are also completely equipped with modern facilities for machining, processing, fabricating and finishing according to your specifications.

And so we offer these attributes of Moline Iron Works to you. We should like to do business with you and invite your specifications for quotation.

Among our customers are these industries:
FARM IMPLEMENTS
RAILROAD CARS
AUTOMOBILES
WASHING MACHINES
GARDEN TOOLS
ELECTRICAL EQUIPMENT
INDUSTRIAL MACHINES
BARN EQUIPMENT
AND MANY OTHERS

MOLINE IRON WORKS
Moline, Illinois, U.S.A.

MOLINE IRON WORKS Since 1878 MOLINE, ILLINOIS U.S.A. SEVENTY YEARS OF SERVICE

(*Continued from page* 164)

disc" force-balance system which permits adjusting the proportional band from zero to infinity. Model 59 Consotrol controller is mounted directly on the valve motor to control liquid flow, where orifice and control valve are in the same line.

No. 131 — Use Coupon on Page 126

Ceiling Is "Fixture" In Area Illumination



Your entire ceiling becomes one fluorescent "fixture" in the new method of area illumination by a complete overall lighting system developed by Smithcraft Lighting Division, Chelsea, Mass. Smithcraft says this "lighting by the yard" can be combined with any acoustical material and installed in an endless variety of patterns with any type of shielding material for practically any desired effect. For office buildings, the system is said to offer an efficient answer to functional lighting within the popular module system. It permits treating functional lighting in the same way as air conditioning, eliminating the need for new fixtures or fixture alterations every time a module is changed. It can be installed and maintained easily and efficiently.

No. 132 — Use Coupon on Page 126

Electric Screwdrivers Cut Costs Up to 65%



You can cut production and assembly costs up to 65% with its new line of electric screwdrivers claims Dremel Manufacturing Co.,

(*Please turn to page* 170)

Imagine doing business with 1890 methods!



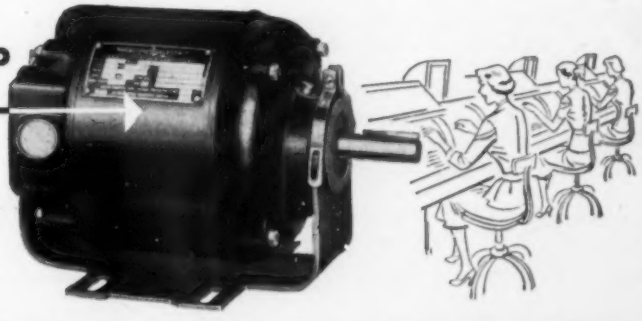
The bookkeeper with his eye shade and sleeve garters, at a high top desk, typified the tempo of business in the Gay 90's. His was a tedious and exacting job. Motorized equipment such as adding machines, calculators, bookkeeping machines, tabulating machines, postage meters, and letter openers, to name a few, were still in the future.

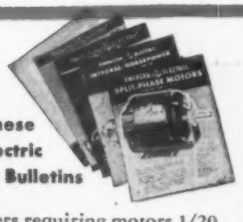
During this period Emerson-Electric was founded. Since then motors have been supplied to scores of leading manufacturers of labor-saving devices.

They staked the reputation of their products on Emerson-Electric motors, and with the passing years became nationally known for dependable service.

Consider this 62-year-old reputation for dependability and efficiency, earned by Emerson-Electric motors for use in business, on the farm, in the home and in industry. Your inquiry is invited on the complete line of standard motors in horsepower ratings from 1/20 to 5, and hermetic motor parts 1/8 to 10 H.P.

MODERN BUSINESS **IS POWERED WITH** ELECTRIC MOTORS





Write for these Emerson-Electric Motor Data Bulletins

Manufacturers requiring motors 1/20 to 5 h.p. can profitably use these reference guides. Specifications, construction and performance data are included for these motors:

- ☐ M135-A Capacitor-Start
- ☐ M135-B Split-Phase
- ☐ M135-C Integral
- ☐ M135-D Fan-Duty
- ☐ M135-E Oil-Burner
- ☐ M135-F Jet Pump
- ☐ M135-G Blower

THE EMERSON ELECTRIC MFG. CO., St. Louis 21, Mo.

EMERSON ELECTRIC
MOTORS • FANS APPLIANCES

LEADERS IN THE FAN AND MOTOR INDUSTRY SINCE 1890



"I never realized the difference in floor absorbents until I saw this test"



Follow the lead of other alert maintenance men, purchasing agents and safety engineers and get the true facts on floor absorbents. With his portable laboratory, your Eagle-Picher man can give you—right at your desk—a scientific analysis of your floor absorbent. *There's no obligation on your part.*

By this scientific test, you'll find how much coverage you're getting . . . how much oil and water are being absorbed for given bulk. Yes, and you'll discover how much your absorbent is costing you in terms of absorption and coverage . . . how much it gives you in terms of safety and light reflectivity.

So that you may truly form your own conclusions, your Eagle-Picher man will be happy to actually let you conduct the analysis yourself.

We want you to see that Eagle-Picher Floor Dry is insoluble . . . chemically inert and non-combustible . . . that its light weight assures exceptional coverage . . . that its light color makes for brighter working areas, extra safety.

Write today for full information.

Eagle-Picher Industrial Floor Dry No. 85

EAGLE EP PICHER

THE EAGLE-PICHER COMPANY

Since 1843 General offices: Cincinnati (1), Ohio

(*Continued from page* 166)

Racine, Wis. They are light, small, and can be used without fatigue at right angles to the work. Smaller Model SD-1 drives free-running screws or nuts from #0 to #4 inclusive; larger model SD-2 is for sizes #4 to #8 inclusive. The first weighs 12 oz., is 4¾" long, has a driver-bit speed of 1200-1400 rpm. The latter weighs 18 oz., is 6½" long, has a driver-bit speed of 1400-1600 rpm. The tools can also be used for unscrewing by merely inserting a bit into the top chuck and turning the machine over in the hand.

No. 133 — Use Coupon on Page 126

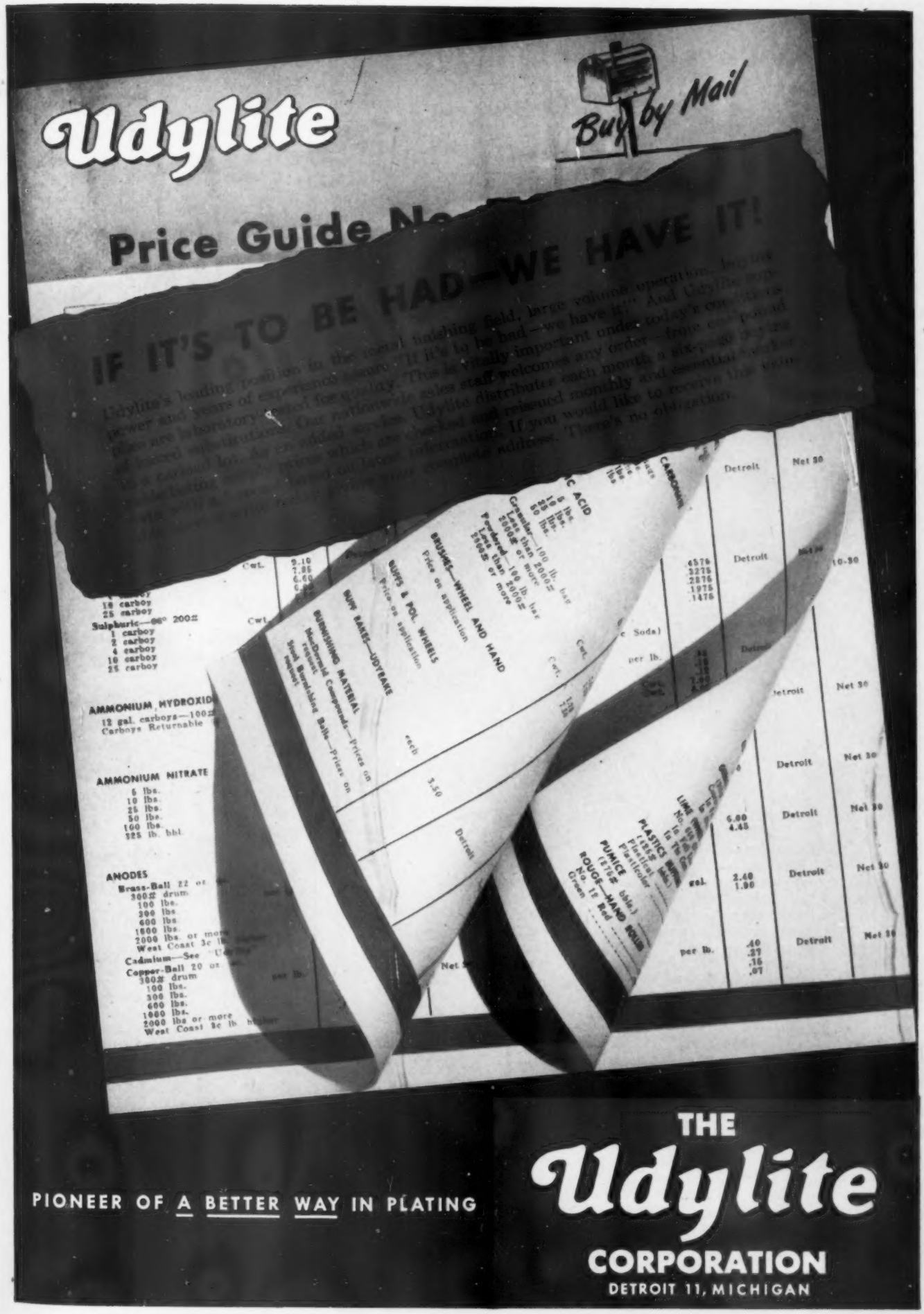
New Type Unit For Filtering Fine Smoke



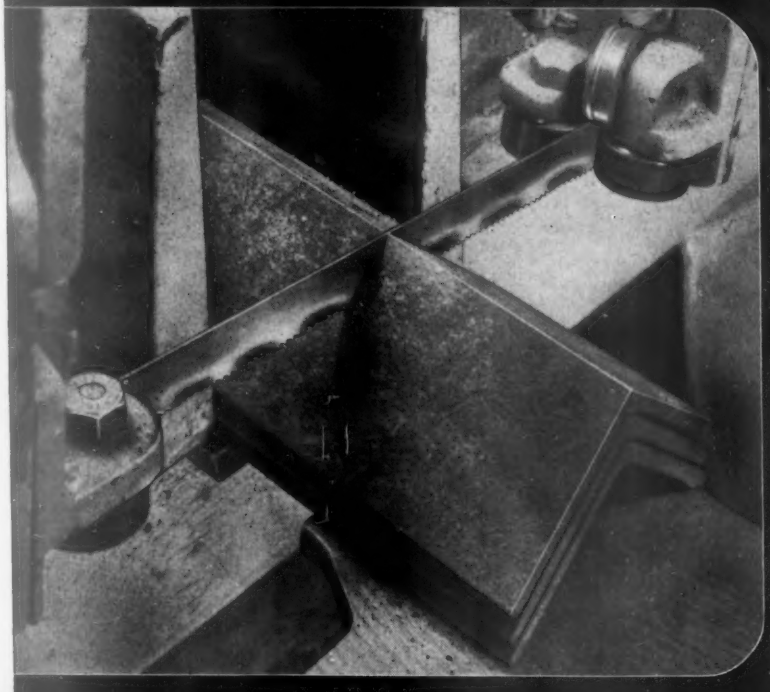
This new type air filter—certified to be at least 99.95% efficient against particles as small as 0.3 micron in diameter—was originally developed to remove radioactive contamination from air exhausted during atomic energy plant operations. Mine Safety Appliances Co., Pittsburgh 8, has now made it available for general industrial, institutional and laboratory use. Called the Ultra-Aire space filter, it is said to have many applications where toxic and radioactive particles are a threat to health or production processes. It can be made part of an air conditioning system, either in intake or exhaust. Bulletin No. CU-4 available.

No. 134 — Use Coupon on Page 126

YOU WILL FIND NEW SUPPLY-SOURCES LISTED EVERY MONTH IN PURCHASING'S CLASSIFIED SECTION! SEE PAGE 316


Udylite
Buy by Mail
Price Guide
IF IT'S TO BE HAD—WE HAVE IT!
PIONEER OF A BETTER WAY IN PLATING
THE
Udylite
CORPORATION
DETROIT 11, MICHIGAN

CONSTANT PROGRESS
Your Guarantee of
TOP PERFORMANCE



In our fully equipped laboratories and testing department, a continuous program of research and development has resulted in the constant improvement of MILFORD Metal Cutting Saw Blades. Among many other advancements, MILFORD originated the fast-cutting Wavy Set Blade and was the originator of the narrow Profile Saw; important contributions to high speed steel hack saw metallurgy have been and are being made. The time and temper saving Easy-Starting Teeth for hand hack saws are an exclusive MILFORD feature. Always first to bring you the newest in significant metal cutting improvements, MILFORD is the logical choice for top performance.

STANDARD OF QUALITY THE WORLD OVER

THE HENRY G. THOMPSON & SON CO.

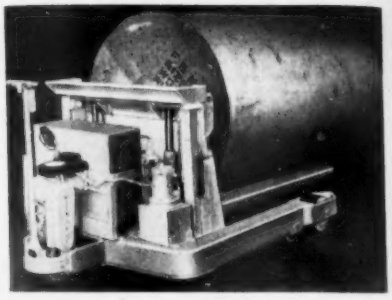


SAW BLADE SPECIALISTS FOR OVER 75 YEARS

NEW HAVEN 5, CONNECTICUT

PROFILE AND BAND SAW BLADES,
HAND AND POWER HACK SAW BLADES

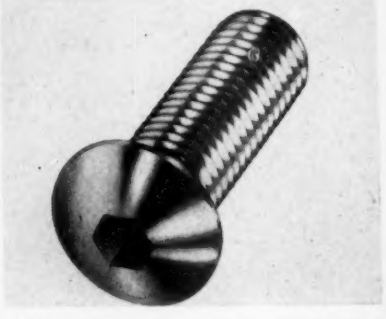
8000 Lb. Capacity Lift Truck



Moto-Truc Company's latest lift truck is a rugged model with an 8000 lb. capacity. It is powered by an 18-volt battery power unit and has a maximum 14″ hydraulic lift. Load length is 8′. Dual 10″ and 7″ load wheels prevent wedging of front wheels in floor slats. Travel speed is 2½ mph loaded, 3 mph unloaded. "Dead man" controls are standard, with automotive type brake applied to the drive wheel. This truck is also designed as a "walkie" unit to afford smaller turning radius. Moto-Truc is at 1968 East 59th St., Cleveland 3, Ohio.

No. 135 — Use Coupon on Page 126

Button-Head Socket Screw For Streamlining



Where streamlined appearance and high strength are wanted, your fastener answer may be the button-head, socket screw developed by Standard Pressed Steel Co., Box 590, Jenkintown, Pa. It has a low head with a hexagon socket. Made of alloy steel and heat treated, it can be used without loss of strength in place of screws with higher heads, many of which have sharp, dangerous corners. SPS says the screw has many applications, particularly where countersinking is impractical. The button-head screw is made in seven thread diameters. The different diameters, all threaded to the head, come in four to seven lengths. Threads are precision rolled.

No. 136 — Use Coupon on Page 126

(*Please turn to page* 174)

You're always right with AUTO-LITE

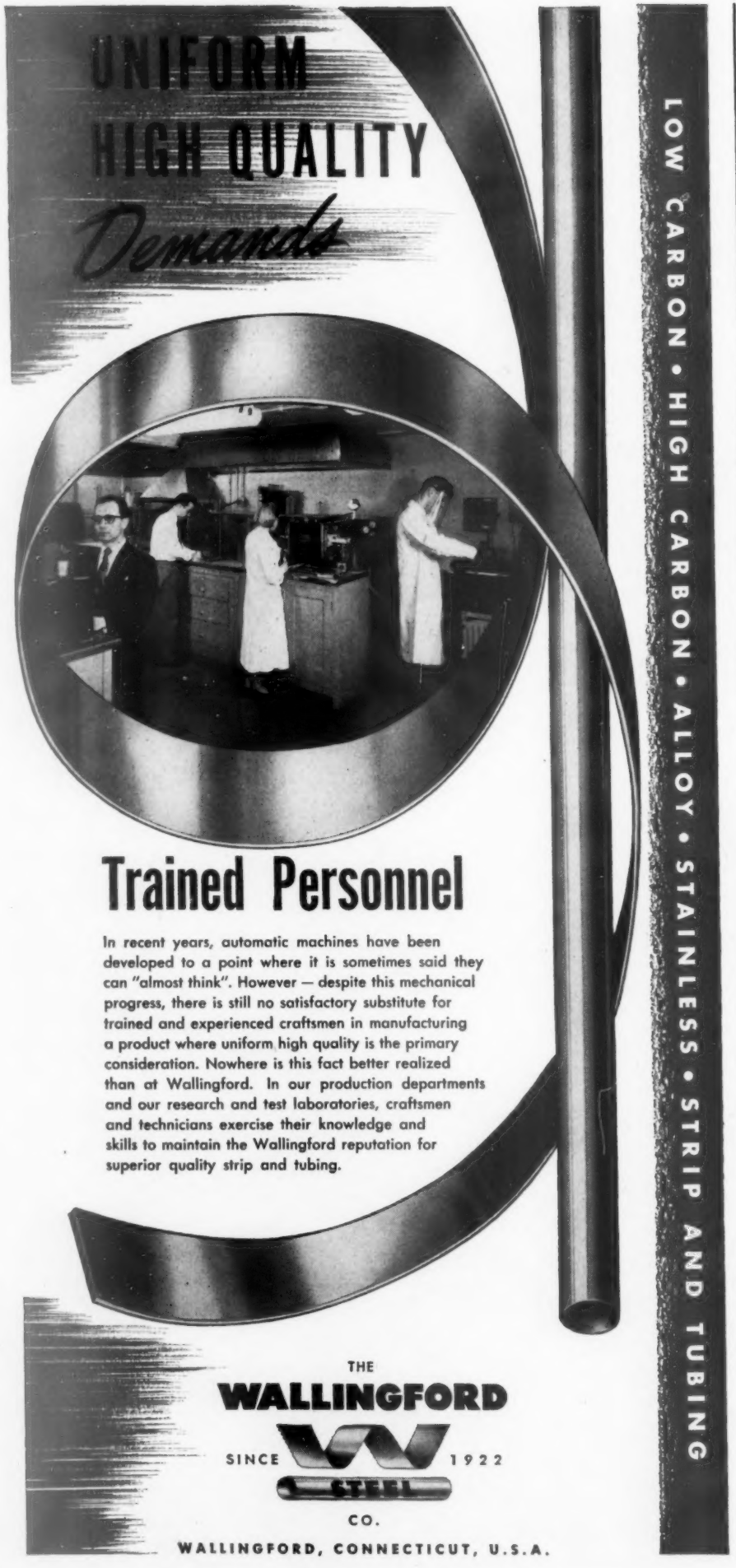
Plastics



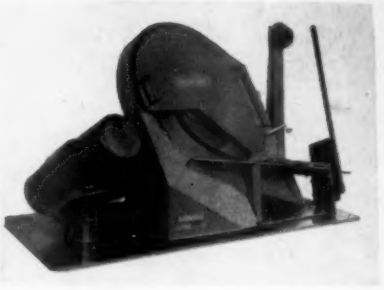
• Plastics and plastic-metal combinations are opening new fields in design as illustrated by these few of many assemblies made by Auto-Lite. Here under one roof at Auto-Lite's great Bay Manufacturing Division in Bay City are the technical skills and production capacity for a new art rendered in plastics. The artistic skill of Auto-Lite's Art and Style Division is available on matters of design and development. Address inquiries to:

THE ELECTRIC AUTO-LITE COMPANY
Bay Manufacturing Division
723 New Center Bldg., Detroit 2, Mich. • Bay City, Mich.
Tune in "Suspense!" . . . CBS Television Tuesdays

PLASTICS • WIRE & CABLE • DIE CASTINGS • INDUSTRIAL THERMOMETERS



Mill Type Power Strap Dispenser



Volume users of heavy-duty strap will be interested in the mill type power strap dispenser offered by Signode Steel Strapping Co., 2600 N. Western Ave., Chicago 47, Ill. It handles ribbon wound strap in ¾", 1¼" and 2" widths. Strapping is fed at the rate of 6′ to 10′ per second. The cutting operation requires only 2 to 4 seconds, Signode states. The machine, made with an extra-heavy steel frame, occupies a space 3′ x 5′, 3′ high. Strap feed is controlled by a push button, and operation of the machine is said to be easy. The machine cannot start until a safety door on the coil holder is shut.

No. 137 — Use Coupon on Page 126

Side Shifter Big Help In Tight-Spot Loading



You get extra agility for handling full capacity loads in tight spots with this side shifter, a standard lift truck accessory, states Towmotor Corp., 1226 E. 152nd St., Cleveland 10, O. Said to be especially useful in freight car loading, the side shifter has a smooth lateral travel of 3½" to either side of center. This simplifies placing loads tightly against walls, and eliminates excessive maneuvering in areas where re-positioning the truck is difficult. It is engineered to operate with standard Towmotor, Priester or Schmidgall forks. It does not affect normal operation of the fork truck, except for a slight variation in load center and capacity.

No. 138 — Use Coupon on Page 126

(*Please turn to page* 176)

All these...and More



American PHILLIPS Wood Screws with sharp gimlet points, sharp threads, well-formed heads.

American PHILLIPS "TWINfast" Wood Screws with twin threads for greater driving speed.

American PHILLIPS Type 23 Thread-Cutting Screws, for metals.

American PHILLIPS Type 25 Thread-Cutting Screws, for plastics.

American PHILLIPS Sems* Assemblies, pre-assembled lockwashers and screws save assembly time.

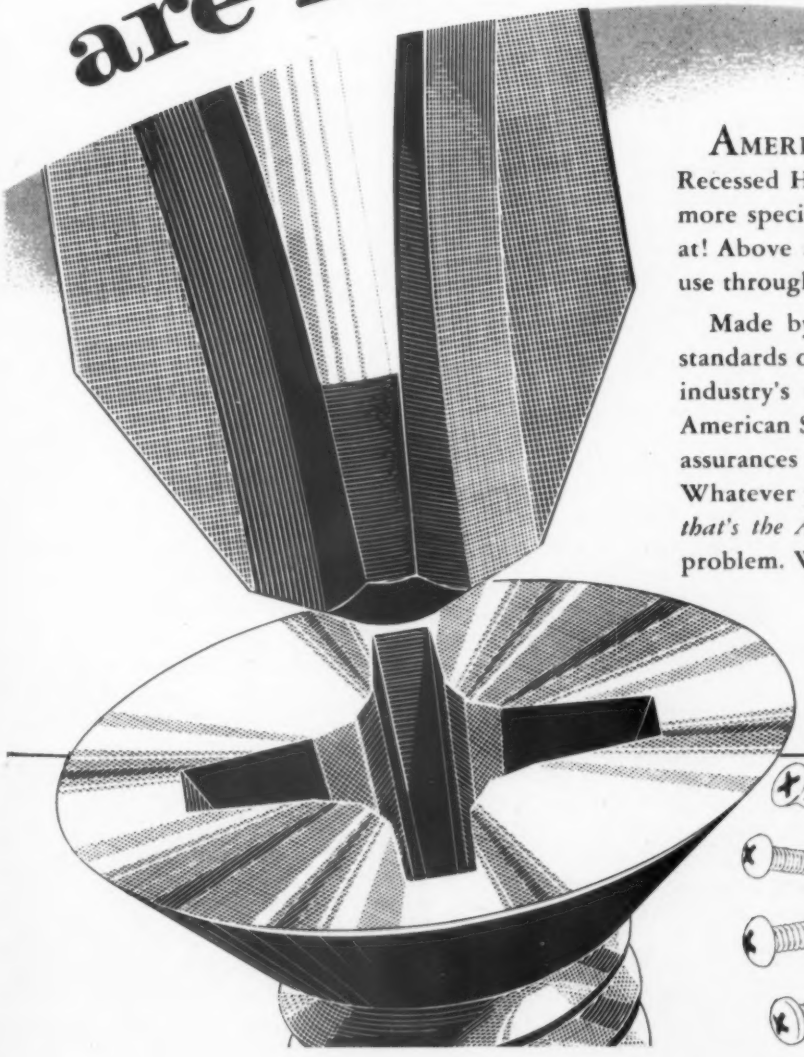
*(U. S. PATENTS NO. 2,113,424 AND 2,113,425)

American PHILLIPS Type A Tapping Screws, for faster fastening of light-gage sheet metal.

American PHILLIPS Type B Tapping Screws, for assembling heavy sheet metal.

American PHILLIPS Machine Screws for fastest driving in drilled or tapped holes (or with nuts).

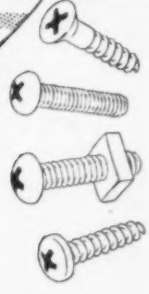
are AMERICAN



AMERICAN makes all types of standard Phillips Recessed Head Screws (slotted screws, too)... and more special types than you can shake a blueprint at! Above are shown some of the types in widest use throughout industry today.

Made by American craftsmen, under American standards of quality control... in one of the screw industry's most modern high-production plants, American Screws and Bolts are one of the stoutest assurances of quality control *for your own product.* Whatever you need to fasten, in the fastest way... *that's the American way.* Let's have a look at *your* problem. Write.





AMERICAN SCREW COMPANY

PHILLIPS HEADquarters

WILLIMANTIC, CONNECTICUT

Main Office & Plant
Willimantic, Conn.
Office & Plant, Norristown, Pa.
Office & Warehouse, Chicago, Ill.



Dear P.A. The initial cost of your fluorescent tubes is something like the visible portion of an iceberg.



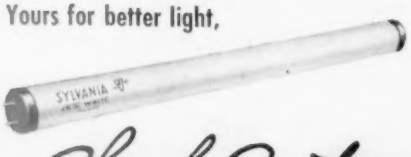
By that I mean it's only a small percentage of the whole. The rest is more or less hidden from view. But, it's very much there . . . especially when you bump into it in the form of current costs and maintenance costs.

Now Sylvania has a method to help you reduce that annoying maintenance costs item.

This consists of a carefully worked out plan that can definitely save you a lot of dollars every year. In addition, this plan will assure you of an abundance of clear, shadow-free light for better, more comfortable seeing.

I'll be glad to send you full details if you'll mail the coupon NOW.

Yours for better light,



Chuck Burton

General Sales Manager, Lighting Division

Sylvania Electric Products Inc.
Dept. L-5407, 1740 B'way, N. Y. 19, N. Y.

I'd like to know more about Sylvania Tubes' better performance and bigger savings. Please send me a copy of "The Why, When and How of Modern Lighting Maintenance" (DR-1251-25).

*Name*_____

*Company*_____

*Address*_____

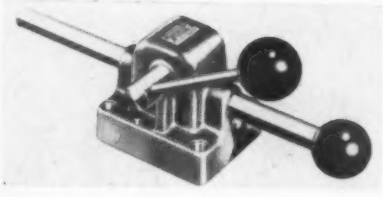
*City*_____ *Zone*___ *State*____

Long-Wearing, Low-Cost Industrial Aprons

Long life and extremely low cost are listed as features of a new vinyl plastic industrial apron made by Dell Plastics, Lawndale, Calif. The apron is full length, has adjustable vinyl ties and reinforced electronically sealed grommets. It is waterproof and inert to ordinary industrial acid solutions. Dell says imprinting the company trade mark is a morale booster for wearers, and an advertising medium when they come in contact with the public.

No. 139 — Use Coupon on Page 126

Device Eliminates Screw Clamps, Holding Tools



National Machine Tool Co., Racine, Wis., says its new screwless, quick-acting locking device for adaption to jigs and fixtures does away with slow screw type clamps and holding tools. Called the Heinrich Grip-Master fixture lock, it is adaptable to a wide range of machining and assembling operations using metal, wood or plastic stocks. A simple push or pull on the bar knob sets the device at any position between fully open or fully closed. A light press on the locking lever gives an extra forceful forward motion to the bar, exerting a holding pressure up to 1500 lbs. National says this quick, sure setting feature can speed production and cut tooling costs.

No. 140—Use Coupon on Page 126

Removes Sand From Steel Foundry Flasks

Hand scraping of steel foundry flasks to remove sand is a thing of the past, says The Alvey-Ferguson Co., Cincinnati 9, O. A-F has designed a special washing machine for doing the job quickly and completely by mechanical means. Thorough removal is important, A-F points out, so that parts of the flask fit closely when reassembled. The flasks pass along on a bar type conveyor through consecutive high-pressure, fan-shaped curtains of cleaning solution coming from above, below and both sides, until every inch of the flask is free of sand.

No. 141 — Use Coupon on Page 126



YOU GET IN

COFFING Challengers



Extra Safety

You can depend on Coffing Challengers to fully protect men and equipment. All load-holding parts are designed to withstand five times rated capacity of the hoist. Each Challenger is factory tested at 100 percent overload.

Low-Cost Maintenance

Heavy-duty construction keeps the Coffing Challenger on the job — assures long life. Formed steel housing withstands impact and shock loads as only steel can. And the Challenger may be completely disassembled in minutes with ordinary tools.

For more information on Challengers and other products listed below, write Dept. Z7C.

COFFING HOIST COMPANY
DANVILLE, ILLINOIS

Hoist-Alls • Mighty-Midget Pullers
Spur-Gear Hoists • Differential Chain Hoists • Load Binders • I-Beam Trolleys
Quik-Lift Electric Hoists

SOLD BY DISTRIBUTORS EVERYWHERE

Office Equipment and Supplies section of PURCHASING Magazine

JULY, 1952



Caterpillar Tractor Co., Peoria.
Courtesy of Remington Rand Inc.

PURCHASING MAGAZINE—A CONOVER-MAST PUBLICATION
205 EAST 42ND STREET, NEW YORK 17, N. Y.

— Modernize

YOUR CATALOG AND BULLETIN FILES

Bring your source information up-to-date on new and improved office equipment and supplies by checking the latest trade literature listed on this page. This special office equipment section is in addition to the regular trade literature section on pages 19, 21, 22 and 24!

— When Writing to Manufacturers Direct, Please Mention PURCHASING Magazine. —

Office Machine Stands

38. Tiffany office machine stands are illustrated and described in four-page bulletin. The stands are described as being safe, silent and strong. Grip-tight feet keep stand from slipping when in use with electrically operated machine, and it is stated that angle steel construction in lieu of hollow tubing, aids in cutting machine noises. Bassick quiet 2″ ball swivel type casters are standard on all models, offering safe, easy mobility. They retract with a positive action into the heavy cast feet of stand. Tiffany Stand Co.

Multiplies Typewriter Output Four-Fold

39. Bulletin describes the Robotyper, a mechanical unit "that multiplies your typewriter's output four-fold." The Robotyper produces individually typewritten letters — letters, identical except for address and salutation, are typed at rate of 135 words per minute. Typist simply types name, address and salutation, and remainder of letter is typed by perforated roll through pneumatic controls. One typist can operate two, three or four Robotypers. Machine will automatically stop and idle at desired point to enable operator to do desired fill-in work. The Robotyper Corp.

Steel Money Chests for Burglary and Holdup Protection

40. New catalog describes 39 horizontal and vertical steel money chests, with round, lug-type, revolving doors. Models are available for all types of users from small businesses to the largest mercantile and financial organizations. Inside capacities range from 460 cu. in. to 23,272 cu. in. All chests are equipped with the H-H-M double check feature that holds the revolving door and combination lock in true alignment for closing. A Brinnell hardness test certificate is furnished with each hardened chest. All chests bear Underwriters' Laboratories Relocking Device label, and Safe Manufacturers National Association group label. Detailed descriptions accompany illustrations of various models. Herring-Hall-Marvin Safe Co.

Printing, Duplicating, Offset and Letterpress in One Unit

41. New Davidson Dual Model 251 duplicating machine will print from paper or metal offset plates, type, Linotype slugs, electrotypes and rubber plates, changeover from one method to another taking less than ten minutes. According to the manufacturer, the owner always has available the best and most economical method of reproduction. The machine is characterized as being ideal for turning out long or short runs of such things as letterheads, envelopes, labels, office forms, price lists, shipping tags, and a host of other small printed matter. It also may be used for duplicating anything that is typed, ruled or drawn, for imprinting and dry offset work. Printed matter available. Davidson Corp.

READER SERVICE COUPON JULY, 1952

MAIL TO:
PURCHASING—Reader Service Dept.
205 East 42 Street
New York 17, New York

Circle the numbers of the trade literature items you want.

38 39 40 41

Name ..... Title .....

Company .....

Street Address .....

City..... Zone..... State.....



There are FIVE *sides to this paper specialist...*

1. The Air Force officer who started as a private in 1942, and rose through the ranks to Lt. Colonel (comptroller) USAFR.

2. The versatile "idea" man whose unique display envelopes have solved many a manufacturer's product packaging problem.

3. The dependable "service" man who considers each paper and production problem a challenge — to be matched by his knowledge of paper and reproduction processes.

4. The successful paper man who numbers among his customers some of the leading printers, lithographers, manufacturers and converters in the East.

5. The young business executive who worked his way up in our organization from inventory clerk to Vice President in six years.

Add them all together and you have Doug Sithens, a key member of the executive staff of the Hobson Miller Paper Co., Inc. — a company that has held 96% of its original customers through thirteen years of service to paper consumers.

* * * *

If you are a business man with paper problems, here's a young man with a broad viewpoint and many-sided experience to help you solve them simply and economically.



S. DOUGLAS SITHENS, Vice President, Hobson Miller Paper Co., Inc. — Hofstra College '42 — Lt. Col. USAFR.

HM PAPER

HOBSON MILLER *Paper* CO., INC.

280 LAFAYETTE STREET NEW YORK 12, N. Y.

455 Forms Cancelled

Forms Control and Printing Know-How Make for Substantial Savings

By H. McDonald, Stationery Buyer*, Detroit Edison Company

*This is the second and concluding installment of article by Mr. McDonald about the activities of his department which is spending $1,500,000 annually for office equipment, supplies, forms and other printed matter. The first installment was published in the June issue of PURCHASING.

FORMS control, forms production and general printing, as stated in the first installment of this article which appeared in the June issue of PURCHASING Magazine, represent lucrative fields for making big savings.

Forms control is the joint responsibility of the Forms Committee and the Procedures and Methods Division of the Auditing Department. All forms are reviewed for the purpose of effecting economies in their preparation and use through standardization, simplification, elimination, consolidation or other similar means.

The Forms Committee consists of eleven members, one of whom is the Stationery Buyer. Each member represents one or more departments of the company. This committee studies all forms having company-wide application and forwards the recommendations to the Procedures and Methods Division for action.

The Procedures and Methods Division maintains a file of all forms in use and records the action taken with repsect to any form. It receives requests for new forms and for revisions to existing forms, and may contact the department directly concerned relative to forms of limited use.

All told, we are using throughout Detroit Edison some 3000 forms. During the 2½ years our forms control has been in effect, 650 forms have been revised, 197 forms approved, and 455 forms cancelled. The revisions were made in many cases to broaden their use, thus eliminating the need for new forms. Of the 455 forms cancelled, 230 were eliminated by combining them with other forms.

There is another source of waste that seems to gradually creep up on a big organization, and it lies in envelopes. Our Forms Committee made a special study of the envelopes that were being stocked, and found that 24 of a total of 125 different kinds could be eliminated. Envelopes are handled as printed forms, and each type is given a form number. Eliminating the 24 envelopes has reduced our envelope inventory.

Three factors have made it possible to effect large savings on forms, namely, the establishment of our own typesetting and reproduction departments, the studies of our Forms Control Committee, and standardization. The printing department, generally referred to as our Copy Service Department, is equipped with six multilith machines, mimeograph, hectograph, and multigraph machines, which are in constant use. This equipment is used for such things as temporary forms, bulletins, interdepartment correspondence memos, statements, data sheets, etc., where the runs are small. The department is an outgrowth of the stupendous amount of duplicating work required in various operations.

We also have a typesetting section and a proof press. Forms are set up and proofed, and after approval zinc plates are made and sent to commercial electro-platers for the production of electroplates. All letterpress forms are plated. This makes for considerable saving in time and money, and also gives us the opportunity to obtain quotations from a larger number of printers. In other words, it eliminates one-place buying where a form may be set in type and the type held by the printer for reruns. Obviously it enables us to do a better competitive buying job.

An electro is usually good for 150,000 copies before a new plate is needed. This is the equivalent of three type-setting jobs. Giving due consideration to costs in our own department as compared with commercial printing costs, the cost of making electros, depreciation of electros, and other factors, this procedure has proved highly profitable.

All forms are designed in a standard size, such as 8½″ x 11″, 5½″ x 8½″, and so on, depending on use, and the machines on which they are to be used. This enables us to get the most out of standard mill paper sizes with minimum waste. Forms are usually designed with an allowance of ⅛″ for trim.

In the printing of forms substantial savings are made by grouping forms and running combination orders. In order to capitalize upon the opportunities thus offered, we have requested department heads to send requisitions for printed forms at least 45 to 60 days before the delivery date required. This enables us to accumulate and assort orders as to kind and form, enabling us to make combination runs of forms that are to be printed on the same kind of stock and in the same color ink. Runs are then made up based on stock sheet sizes—17 x 22, 22 x 34, or 19 x 24. The savings by combining forms will range from 15% to 30%, as compared with the cost of single runs.



SOLD

Business is sold on IBM Electric Typewriters because . . . they turn out consistently beautiful work . . . they are the easiest of all to operate . . . they save energy, save time, save money.

IBM
TRADE MARK

Electric Typewriters

INTERNATIONAL BUSINESS MACHINES

IBM, Dept. PR-3
590 Madison Ave., New York 22, N. Y.

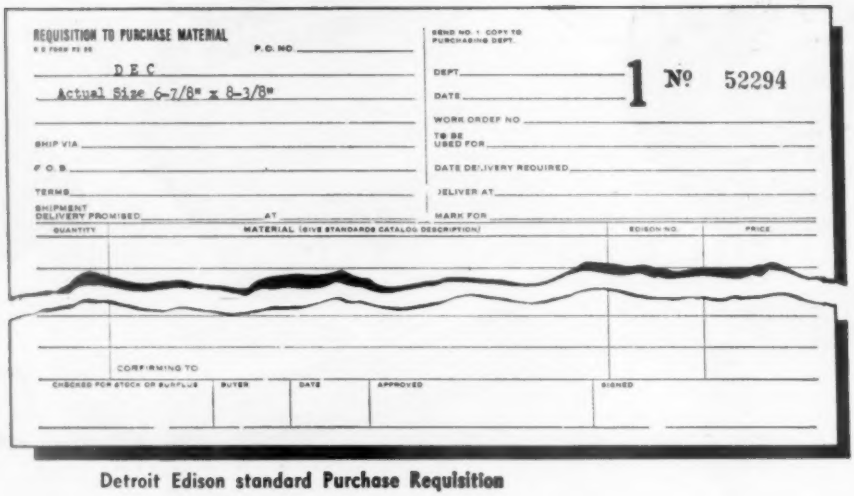
☐ *I'd like to see a demonstration of an IBM Electric Typewriter.*

☐ *Please send descriptive folder.*

*Name*_____
(please print)

*Company*_____

*Address*_____



REQUISITION TO PURCHASE MATERIAL

P.O. NO. _____

D E C

Actual Size 6-7/8" x 8-3/8"

SEND NO. 1 COPY TO PURCHASING DEPT.

DEPT. _____ 1 Nº 52294

DATE _____

WORK ORDER NO. _____

TO BE USED FOR _____

SHIP VIA _____

F. O. B. _____

DATE DELIVERY REQUIRED _____

TERMS _____

DELIVER AT _____

SHIPMENT DELIVERY PROMISED _____ AT _____

MARK FOR _____

QUANTITY	MATERIAL (Give Standards Catalog Description)	EDISON NO.	PRICE

CONFIRMING TO

CHECKED FOR STOCK OR SURPLUS	BUYER	DATE	APPROVED	SIGNED

Detroit Edison standard Purchase Requisition

Savings are correspondingly larger on small quantities when run in combination, as opposed to large runs where a printer will make his own combinations and run a form four up or eight up, depending upon press capacity. This also applies in offset printing in which a printer will make photographic multiples of original copy according to press capacity.

Our department also issues all purchase orders for advertising material of any kind, developed by our advertising and sales promotion department. Technically, the purchasing department is responsible for the letting of contracts with any supplier, but the advertising department must make its own decisions as to artwork and copy preparation, and hence deals directly with artists. When a job is ready for production, the finished artwork and copy are turned over to the purchasing department which gets bids and places the order, after consultation with the advertising department.

In this, as in all of our buying, we work closely with the using department. Printing of itself is a complicated business, and quotations will vary as much as 50%, depending on just how badly a printer may want a job. Often printers will make strenuous efforts to get work for which their shops are not properly equipped. And to say the least, printing is a type of work for which buyers seeking best prices, service, and good workmanship, cannot just issue orders. They must know how and where to get the best prices and dependable service.

Printers often specialize on particular kinds of work; some have presses for long runs and color work; others have smaller equipment for one-color runs and short runs, and usually can quote better prices on this type of work than some of the larger plants. Efficient printing buying demands that the buyer be familiar with printing customs, equipment, paper stock, best printing sizes, and also that he have a knowledge of the printing facilities and kind of work that can be done by the printers on his purchase record. This specific knowledge of the trade, usually obtained by plant visits, has been of particular value to us in buying printing of any kind.

Following are a few examples of printing jobs on which we have effected substantial savings: A year or so ago we realized a good saving on our appliance-repair tag for which the supplier had found it necessary to increase his price 25%. At our suggestion the using department approved the use of lighter weight stock. Use of this stock enabled the printer to make the run on a high speed rotary press. The result was that the old price for printing plus a nominal cost for eyeletting and wiring obtained by giving the job to a firm specializing in that type of work, reduced our total new cost 11%. Based on an annual use of 800,000 of these tags, this reflected a saving of $1160 per year.

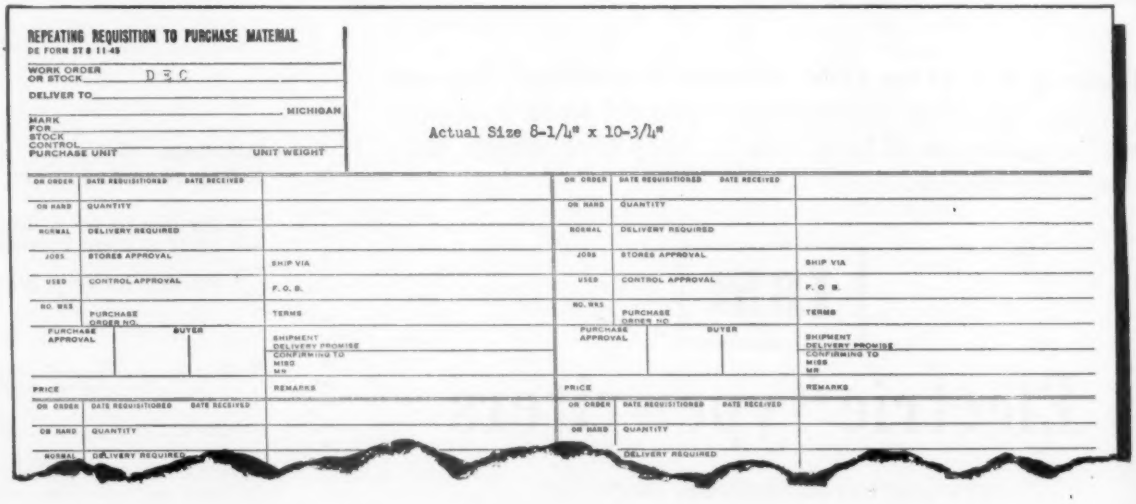
We also developed a saving of 18% on our purchase orders by locating a source of supply that could furnish a snap-out form. This saving was made despite the fact that we changed from a seven-part to a ten-part form.

On another printing job involving a direct mail folder we saved $1,102.75. In this case the specifications originally called for the use of an expensive cover stock. Securing an alternate stock that nicely met all requirements, we obtained quotations from the printer based on both stocks. The quotation on the original stock was $5,161.75, and on the alternate stock $4,059.

A saving of $3,240 annually on the cost of printing a monthly publication was brought about by the simple procedure of seeking bids on the job from several quality printers other than the one that had been handling the job.

Forms control and general printing are fruitful fields for cost reductions by purchasing. In many

(*Please turn to page* 190)



REPEATING REQUISITION TO PURCHASE MATERIAL

DE FORM ST 0 11-45

WORK ORDER OR STOCK D E C

DELIVER TO _____ MICHIGAN

MARK FOR _____

STOCK CONTROL _____

PURCHASE UNIT _____ UNIT WEIGHT _____

Actual Size 8-1/4" x 10-3/4"

ON ORDER	DATE REQUISITIONED	DATE RECEIVED		ON ORDER	DATE REQUISITIONED	DATE RECEIVED	
ON HAND	QUANTITY			ON HAND	QUANTITY		
NORMAL	DELIVERY REQUIRED			NORMAL	DELIVERY REQUIRED		
JOBS	STORES APPROVAL		SHIP VIA	JOBS	STORES APPROVAL		SHIP VIA
USED	CONTROL APPROVAL		F. O. B.	USED	CONTROL APPROVAL		F. O. B.
NO. WKS	PURCHASE ORDER NO.		TERMS	NO. WKS	PURCHASE ORDER NO.		TERMS
PURCHASE APPROVAL	BUYER		SHIPMENT DELIVERY PROMISE	PURCHASE APPROVAL	BUYER		SHIPMENT DELIVERY PROMISE
			CONFIRMING TO				CONFIRMING TO
			MISC				MISC
			MR				MR
PRICE			REMARKS	PRICE			REMARKS
ON ORDER	DATE REQUISITIONED	DATE RECEIVED		ON ORDER	DATE REQUISITIONED	DATE RECEIVED	
ON HAND	QUANTITY			ON HAND	QUANTITY		
NORMAL	DELIVERY REQUIRED				DELIVERY REQUIRED		

Repeating Purchase Requisition in use at Detroit Edison



Great NAMES IN INDUSTRY...
CHOOSE *Great* DESK TOP EQUIPMENT

BERT M. MORRIS CO. is *foremost* in the field of *matched* Desk Top Equipment.

The complete setting shown—pen set, memo pad, letter tray, ash tray, and phone rest, retail for less than you would expect to pay for *one* fountain pen set.

MORRIS FOUNTAIN PEN SET—A desk fountain pen with beauty of design and *real* writing utility. Concealed "push button" filler and thread-in point section. For long life and smooth writing all sets are supplied with iridium-tipped points. A real time and money saver in any office.

THERE IS NO SUBSTITUTE FOR QUALITY. *All Morris writing sets are equipped with iridium tipped points and each point is tested and approved at factory for writeability.*

5 POINTS FOR "Write-ability"

STUB
BROAD
MEDIUM
FINE
EXTRA FINE



Morris Fountain Pen Set with Northrop Aviation, Inc., insignia

Available in — Grey — Bronze — Walnut — Mahogany and Green

LETTER TRAY — strong two point suspension allows access from entire front and both sides. Tiers quickly added, legal or letter size.



BOOK ENDS — at last — inexpensive book ends to match modern office furniture.



MEMO PADS — available in two types. With jewelers bronze bar that drops as paper is used, or standard box style.



MORRISET —The constant flowing, finest all-round writing implement. Holds a *full 2½ ounces of ink.* Choice of 5 quickly replaceable "thread in" points—extra fine, fine, medium, broad, stub.



ASH TRAY—A real He-Man ash tray. Glass lined, perfect for any desk or conference table.

Desk Top Package Deals—#100 and #200
Inquire about the surprisingly low cost of matching your desk with these items.

BERT M. MORRIS CO.

Dept. P-7 8651 West Third Street
Los Angeles 48, California
In Canada: McFarlane Son & Hodgson, Ltd., Montreal, Que.

We Must Know What We Are Buying

By M. T. Tracht,

Purchasing Agent, Illinois Institute of Technology

*Paper presented at annual convention of National Association of Educational Buyers, Washington, D. C., May 1952.

I HAPPENED to be lunching a short time ago with our new president at Illinois Tech, and in the course of the conversation mentioned the subject assigned for my treatment at this gathering. His immediate observation was that the first major problem in the purchase of office equipment and supplies would be money—where to find it and how to obtain it. Indeed that must be an item on the minds of many of our college presidents these days.

We as buyers—most of us—are not worried about the money with which to buy, at least not from whence it comes; but rather we concern ourselves with how to spend what we have for what we need, wisely. Given the wherewithal, we spend it, and at the same time try to save as much of it as we can.

The careful use of available funds, then, is one of our most important jobs—and perhaps our biggest problem. However obvious, it is well to keep this in mind as we tackle the specific problems involved in the purchase of office equipment and supplies.

Good Buying Techniques Important

It is as easy to throw good money away on a poor purchase of paper, for example, as it is on a poor purchase of soap, or of lumber, or furniture, or lab equipment. And conversely, a good purchase of these may save us real money for better uses. The practice of good purchasing techniques is important: determine a need, set up sound specifications, select reliable sources for competition, buy the right item at the lowest price.

Perhaps we find ourselves following good practices in purchasing a piece of capital equipment. All of us, I am sure, at one time or another have made a painstaking project out of a major purchase of office equipment, so that we have become an expert in the field almost overnight, and afterward feel very proud and satisfied with our achievement. And then on the other hand we may discover quite by accident that we have been buying rag content scratch pads, or something similarly extravagant. And we find that our biggest expenditures are actually for the items to which we may have a tendency to pay the least attention.

On the other hand, we can expend a great deal of time and effort in buying a costly piece of equipment, only to find that we made a poor purchase or a not-so-good purchase. Analyzing it will likely uncover a failure to ask the right questions, or to get the right answers to them, or failure to follow good purchasing techniques. I could cite a true example of a poor purchase of a major piece of office equipment. In fact I happen to be the unfortunate one who made it. Without going too far into the details, it all happened when the purchasing agent accepted without question the specifications of a department head. Otherwise a careful administrator, he made a miscalculation in his use requirements, with the result that an item far too small for the intended purpose was bought and delivered. The proper size replacement was finally installed just a few days ago, it being one of those specially made items of long delivery. Perhaps both of the principals were at fault, but when the deed was done it was of course the P.A. who had to salvage the remains with the minimum loss.

That's a fair example of the money that may be lost—or could be saved—in this business; but it is perhaps more vital to call attention to those items where the potential direct loss may not be as obvious.

Let's take the case of printed forms. If the buyer doesn't know the use to which a particular form will be put—how it is handled, who accomplishes most of it, what information it is supposed to give—then he should take the trouble to find out. Ignorance is certainly not bliss on this job. Even if the specifications have been set up by your controller or forms expert, it could pay to check them anyway against your own good sense. I have had more than one request for perhaps 500 sets of some carbonized snap-out form, and in checking have found that the quantity represented a year's supply or more, and the time required for inserting the carbons was not important. If I had gone ahead and found someone to do the job, the premium for that quantity would have been considerable. Sometimes a good supplier can be of help in a case like that. It often pays to talk it over with him, too, when possibly a timely suggestion will avoid a poor purchase and insure a good one.

So we must know what we are buying, and what it's for, and be sure we are going after the right item for the job. Then with a good set of specifications, some good records of experience, and a knowledge of sources—and perhaps also a girl who can type—the essential elements of a well-oiled purchase are at hand.

I should like to invite your thinking to the principal types of office supplies and equipment and in doing so bring out a problem or two



How they've simplified purchase order paperwork on the *SOUTHERN RAILWAY SYSTEM*

• By doing away with a system that called for the entering in ledgers and filing of purchase orders and invoices in bulky, bound volumes, the Southern Railway System has reduced clerical work hours in their Purchasing Department more than 35%. Also, they've made vendor account information much more easily accessible for executive review. Here's how simply their new system operates:

1. All invoices and correspondence on each purchase order are accumulated in *one* Remington Rand Visible-Tipped Follow-Up Folder. This folder is so designed that the heading, clipped from an order copy, can be inserted in the visible tip as a label showing vendor's name and order number.
2. Accounts are divided into five major alphabetical groups. Each group is handled by one clerk who specializes on those particular accounts. Folders are filed according to the Remington Rand Variadex System (for utmost reference speed), in two desk-height Remington Rand Filing Cabinets, one on each side of the clerk's work table.
3. As each order is completed, papers are placed in an ordinary folder and transferred to an inactive file. The durable Visible Tip Folders are re-used again and again for new, active orders.

The money saved by Southern through not having to bind their orders will pay for their new, efficient equipment in a short time. But their greatest gain is a smoothly operating purchase order routine under close administrative control.



Free to Purchasing Agents: A condensed 4-page summary of the Southern Railway's Purchase Order system, "before and after", with step-by-step description of its many economies, which may be applied to *your* own procedures.

Remington Rand INC

Management Controls Reference Library, Room 1229
315 Fourth Avenue, New York 10, N. Y.

Please furnish free copy of "Simplified Purchase Order Control" (SN 768).

Name_____ **Title**_____

Company_____

Address_____

City_____ **Zone**_____ **State**_____

peculiar to the purchase of the specific types. At the risk of being too elementary, perhaps review can be beneficial.

Three to Five Bids

First of all, in the category of supplies, we must all buy paper, fine and coarse—duplicating, printing and writing papers, printed forms, mailing pieces, envelopes and specialties, adding machine rolls, file folders, and wrapping papers. All are common to the office or the department providing office services. The market for these paper items is characterized by competition. At least three to five bids would be considered a "must" in paper buying. The repeat order, even for printed forms when type is standing, is an invitation to uneconomical buying.

Paper is largely unstandardized by comparison with other commodities, so that careful specification is important in order to bring the bids into proper means of comparison. We need to know exactly what we will get, and we should check the shipment to see that we got it. For example, color differences and cutting irregularities can cause real hardship and expense, and seem to be common deficiencies in shipments these days. In my own experience, poor cutting has been a complaint against several supposedly reliable mills. Now perhaps no amount of specification will insure against such an occurrence, and yet a bit of foresight in calling for and spelling out uniform quality, "or else", will make it easier for the buyer to insist on a favorable adjustment, if needed.

Take some trouble to buy your papers, and don't leave it to your secretary or office boy to pick up a few reams or boxes here and there. It pays to pool your needs, lump your purchases, and make provisions for proper storage. This also gives you a chance to accept a normal delivery schedule and avoid the premium price of a rush order. The hundred-thousand price, or the ton price, or the carload price will really save money.

Other supplies, both durable and expendable, such as staplers and staples, punches, pencils, clips, ink, etc., require a slightly different approach. We might also include in this group such items as carbon paper, duplicating stencils, graph papers, drawing and sensitized papers. Here is the place to have a good wholesale stationer, or two or three —but at least one good one. A fair degree of standardization is present with these items, and channels of distribution, together with retail prices, are relatively fixed. Although competition, especially on large purchases, is still important, that need not involve bids for every need (providing you are free to act without that procedure). It is very handy to establish a long-discount arrangement with a reliable wholesaler, and be relieved of some of your lesser buying worries. The many specials and small purchases of this type make this particularly desirable, and the buyer can at the same time be sure that costs are reasonable.

Best of all is the arrangement which includes the institutional book and supply store. The value of such an activity as a purchasing medium of the institution cannot be overemphasized. It is particularly advantageous in the purchase of miscellaneous office supplies, not to mention a wide variety of other items on which long resale discounts are obtainable. Very favorable contacts can be arranged with the manufacturers or jobbers, depending to some extent on the retail volume, of course. Such things are not automatic, however, because the buyer must do a negotiating job to establish the contacts, and should review them frequently, perhaps with the cooperation of the store manager.

But to most of us educational buyers, it's a case of "you have it or you don't have it", and we go from there. If you do have it, however, be sure you don't overlook it. Be certain that you're taking advantage of the opportunities which an institutional store present to the fullest extent possible.

Standardization Simplifies Buying

Office equipment of most types presents a different problem to the buyer than supplies. Item cost is high, and purchases are bound to be fewer. We can assume that most educational purchasing agents spend considerable time with each purchase of office equipment, unless he already has some favorable arrangements for ordering some of his needs in a routine manner. A carefully developed decision to standardize on certain office furniture, for example, will usually simplify the job on those items for succeeding purchases.

Without the benefit of some of these shortcuts of various sorts (which incidentally should never be spurned if they are sound) the buyer starts from the beginning—determining needs and setting specifications, selecting reliable sources, then comparing quality of construction, appearance, ease of operation, ease of maintenance and replacement. He weighs all of the factors against first cost, upkeep and resale value. The selling price of the item cannot be the only consideration, although it is always important.

I am reminded of the occasional type of salesman who deprecates and heaps scorn on the so-called "price buyer". (He may already know that his competition can beat him.) That fellow is in for a jolt in my office when he finds out that I am one of those lowly persons and take a certain amount of professional pride in so being. No good buyer, however, overlooks any of several important factors in making his decision to purchase.

A quite different problem is involved in outfitting a new office than in replacing some used furniture with available like items. The problem of steel versus wood comes up rather early, and we perhaps find ourselves weighing the appearance and warmth of wood, for instance, against the utility and durability of steel. With replacements, on the other hand, matching is a primary problem. One handy solution, by the way, is to completely outfit an executive office and judiciously distribute the old pieces. In any event the buyer has less of a problem on the one hand if he or his predecessor has been careful to consider the problem of replacement in making the initial purchase. Special requirements of one sort or another do create problems, but certainly the good buyer always aims to keep things standard, considering stock items if possible, for lowest cost, quickest delivery, easiest maintenance and replacement.

Buying Office Machines

For other office equipment—office machines, duplicating equipment, recording and other labor-saving devices—the buyer often finds his greatest problem solved when the machine or device is found which exactly meets the need. Determining that exact need is important, and usually requires the cooperative planning of several individuals. And I believe this is rightly so; but of course the purchasing agent should be apprised of the considerations, should assist with gaining sources and information, and certainly should at least participate in the decision. Each of the many types of equipment will

(*Please turn to page* 190)



"All he said was, I want those bills out by five o'clock, Miss Hardway"

There's a big difference in business forms, too!

It's the difference in how they work —for you. Standard Register *continuous* forms work so that business machines can *produce* continuously — produce accurate, legible multiple-copy records at lowest total cost. That's guaranteed specifically—it's how *these* forms are made.

Standard Register forms *work* to direct and control your business operations better. That's because our Representative expertly analyzes your *system* requirements. With his services . . . with Standard's forms and devices . . . you can readily have the best procedure — the simplest process of writing records — the most efficient form design.

That's why Standard Register forms are eliminating needless waste, saving untold thousands of dollars, for 93 of America's 100 largest companies and 65,000 more. How about yours?

Phone The Standard Register Company in your city. Or write us at 407 Campbell St., Dayton 1, Ohio.

STANDARD REGISTER

Labor-Saving Business Forms and Devices

ORIGINATORS OF MARGINALLY-PUNCHED CONTINUOUS FORMS

PS

PAPERWORK SIMPLIFICATION: What happens when better business forms are scientifically applied.

Now! "Non-Stop" Typing of Continuous Forms!

Ever notice the interruption that takes place when an operator completes typing a form? Before she can resume typing, she must carefully turn the platen to the proper line of the next form — or to the next "writing area."

The Automatic Line Finder eliminates this typing interruption!



A "VERTICAL TABULATOR." This girl can type continuously. Here is how it works . . . when she finishes one form or typing area (no matter how many lines she has typed) she simply pulls the lever of the Automatic Line Finder. The forms advance automatically to the *next writing line*, as indicated below.



Kant-Slip Continuous Forms, combined with Standard Register's exclusive new Automatic Line Finder, enable users to produce 44% to 300% more records per hour.

The Automatic Line Finder is available now for popular typewriters and key-operated bookkeeping-billing machines.

FREE a book of sound information on Purchasing Forms!



Uarco's Encyclopedia of Business Forms for Purchasing

If you saw this book in a store, you'd buy it—it's that worthwhile.

There's no advertising in its 38 pages; just sound information. The shirt-sleeve kind you want to have about Purchasing Forms.

Uarco has analyzed the eight basic Purchasing Forms . . . Purchase Requisition, Request for Quotation, Purchase Order, etc., and listed for each: what the form is, why it's used, where it originates, distribution of copies, details of design . . . and backed up each with page-size illustrations of the form.

If you have a question about Purchasing Forms, *any* question, you just have to turn to the right page to get the answer!

Factories: Chicago; Cleveland; Oakland; Deep River, Connecticut; Watseka, Illinois—*Sales Representatives in all principal cities.*

UARCO INCORPORATED

Business Forms

Uarco Offers You This Important Book Free

Pin this coupon to your letterhead and mail for your free copy

UARCO INCORPORATED
Room 1619, 141 W. Jackson Blvd.
Chicago 4, Illinois
Please send my copy of Uarco's Encyclopedia of Purchasing Forms.

Name..... *Title*.....

Firm.....

Address.....*City*.....*State*....

Forms Control and Printing Know-How

(*Continued from page* 184)

instances, the savings once made are recurring, and over the years run into impressive figures.

In this article and also the one that appeared in the June issue the purpose has been to set forth that the buying of administrative tools, equipment, accessories and paper and printing offers many opportunities for making cost reductions. We have made excellent savings by close cooperation with requisitioning departments, standardization and stock controls, and the development of new sources of supply.

* * *

We Must Know What We Are Buying

(*Continued from page* 188)

have its peculiar problems of purchase. In some cases the buyer and his institution find themselves considering the purchase of an entire method of operation. Plenty of help and careful study are surely essential, because a large first cost and very substantial operating and/or maintenance costs are frequently involved. When the item is finally bought everyone should feel the satisfaction that the right purchase was made.

Of the more common office machines, such as typewriters and adding machines, the models and prices are quite well standardized, and the longest discount is likely to close the deal on succeeding purchases for some time to come. Nevertheless, it pays also to look at performance records, maintenance costs, ease of operation and even the desires of the operators—should you have managed to turn a deaf ear to those opinions up to that point. Ask around a bit and check with a reliable repair man (if indeed such a person exists). If other things should happen to be equal, the best is by far the cheapest.

Rent or Buy

Some special problems which exist with office equipment—questions which must be answered when procuring—are: shall we rent for a time the item we need or purchase outright; shall we buy a small one or a big one, a hand model or the electric; shall we buy a maintenance agreement or maintain only by emergency calls as needed; shall we buy the repairs or other serv-

(*Please turn to page* 192)

THIN PAPERS

Reduce
MAILING
TYPING
FILING
Costs.

Use
ESLEECK
THIN PAPERS

Air Mail Bond
Clearcopy Onion Skin
Fidelity Onion Skin
Laid Thin Papers
Prestige Onion Skin
Superior Manifold
Thin-Opaque

Recommended for Thin Letterheads, Copies, Records, Forms, Advertising.

Ideal for Air Mail, Branch Office and Foreign correspondence.

SEND FOR SAMPLES

ESLEECK
Manufacturing Company
Turners Falls, Mass.

PROTECTION against pilferage

SCOTCH THRIFT VALUES!



ONLY YOU KNOW YOUR OWN SECRET COMBINATION

Steelmaster CB1

Card drawer for 3x5, 4x6, [illegible] or flat or check filing. Two letter drawers—ball bearing, compressor, cam suspension. Strong combination lock. Safety vault. Stationery supply storage section — welded shelf. Comes complete with lock and keys on storage door.

Outside Dim.	Secret Section	Storage Section
HEIGHT 26"	13½	13"
WIDTH 22"	11½	11½
DEPTH 16"	16"	16"

SHIPPING WT. 125 LBS. SHIP. WT. CB1-C (LEGAL SIZE) 30" HIGH, 40 ABOVE, EXCEPT WIDTH, 30". AVAILABLE IN GREEN OR GREY, INDICATE COLOR. PRICES HIGHER ON WEST COAST AND ALL BRANCHES, $9.00 EXTRA.

ONLY $45.95 (LETTER) CB-1

CB1C—LEGAL SIZE $49.95

PROTECTION AGAINST PILFERAGE!

ONLY YOU KNOW YOUR OWN SECRET COMBINATION

Steelmaster CB2

Three letter drawers — ball bearing, compressor, cam suspension. Strong combination lock. Safety vault. Stationery supply storage section — welded shelf. Comes complete with lock and keys on storage door.

Outside Dim.	Secret Section	Storage Section
HEIGHT 40"	13½	23"
WIDTH 22"	11½	11½
DEPTH 16"	16"	16"

SHIPPING WT. 165 LBS. SHIP. WT. CB2-C (LEGAL SIZE) ALL DIM. AS ABOVE, EXCEPT WIDTH, 30". AVAILABLE IN GREEN OR GREY, INDICATE COLOR. PRICES HIGHER ON WEST COAST AND ALL BRANCHES, $9.00 EXTRA.

ONLY $49.95 (LETTER) CB-2

CB2C—LEGAL SIZE $52.95

PROTECTION AGAINST PILFERAGE!

ONLY YOU KNOW YOUR OWN SECRET COMBINATION

Steelmaster CB3

2 card drawer for 3x5, 4x6, [illegible] or flat or check filing. Two letter drawers—ball bearing—compressor—cam suspension. Strong combination lock. Safety vault. Stationery supply vault section — welded shelf. Comes complete with lock and keys on storage door.

Outside Dim.	Secret Section	Storage Section
HEIGHT 26"	13½	23"
WIDTH 22"	11½	11½
DEPTH 16"	16"	16"

SHIPPING WT. 125 LBS. SHIP. WT. AVAILABLE IN GREEN OR GREY, INDICATE COLOR. PRICES HIGHER ON WEST COAST AND ALL BRANCHES, $9.00 EXTRA.

ONLY $55.95

PROTECTION AGAINST PILFERAGE!





Steelmaster NEW "SEA-BEE" SERIES CB1 CB2 CB3

America's #1 sales promotional item!

IMMEDIATE DELIVERY • LITERATURE AVAILABLE

PRICES HIGHER ON WEST COAST

The Steelmasters • art steel co., inc. 170 w. 233rd street new york 63, n. y.



(*Continued from page* 190)

ices required or rather provide for them ourselves?

It is well for the buyer to ask such questions, or other pertinent questions, when buying all types of office equipment and supplies. And having asked the right questions, it follows he must know where and how to produce the right answers if he is to avoid that "poor purchase", and indeed make the best possible purchase. As I have said, too, and you probably know very well, that it pays to work closely with the person or persons who are responsible and who will use the item being considered. Consult with others who conceivably can help do the job. They will be inclined to back up your decision, cooperate to carry out the intent and thereby insure a good purchase, or if necessary share the blame if the deal should happen to go sour.

It has been said by others, and it always seems very true, that the purchasing agent's biggest problem is selling. They say that he must be a good salesman if he is to do an effective job. Well I say that he must be a good buyer, at least, if he would *keep* his job.

NAMED MANAGER OF COMMERCIAL CONTROLS DETROIT BRANCH

Carl H. Louison has been named manager of the Detroit branch of Commercial Controls Corporation of Rochester, N. Y. He succeeds Clarke L. Hoagland who now takes over the Chicago office.

SELF-RENEWING CARBONS FOR AUTOGRAPHIC REGISTER

The Autographic Register Company, of Hoboken, New Jersey, now provides a self-renewing carbon for its autographic registers. One sheet of this "Durographic" carbon will outlast a full loading of register forms, according to the manufacturer. When the carbon has been inserted, it is not necessary to touch it again until all forms in the register are used.

The manufacturer states that the improved durability is the result of impregnating the Durographic paper with a special ink which automatically flows back into the pencil indentations after each write. The self-renewing carbon surface gives clear, deep-purple, indelible copies, providing permanent, erasure-proof records.

A new booklet, describing Durographic carbon is available on request.

DIEBOLD BRANCH CHANGES

J. D. Hawkins has been appointed manager of the Cincinnati Branch of Diebold, Inc., replacing Thomas C. Cortright, Jr., who has been named manager of Diebold's Boston branch.

GRAY ANNOUNCES NEW TELEPHONE DICTATING SYSTEM

A new system of dictation designed to serve a number of users by connecting them via telephone to a single recording unit was recently announced by The Gray Manufacturing Company, 521 Fifth Ave., New York, N. Y.

Walter E. Ditmars, president, pointed out that the new equipment provides low cost dictation facilities for part-time users.



Four push-buttons give the user control of recording machine

"In almost every office," he said, "there are individuals who need dictation equipment but need it only occasionally. The cost of providing individual equipment would be prohibitive on a 'now and then' basis. The PhonAudograph sharply reduces the per user investment in equipment while providing the same efficient service as the individual machine.

"With this new system, the user merely picks up his dictation telephone and talks. Anyone who can use a telephone can use the PhonAudograph. The user can relax while working: Four push buttons give him control of the recording machine even though it may be located at a secretary's desk hundreds of feet away from his office.

"He can listen back to ten words or as far as he wants, and he can listen back as many times as he wants, simply by touching a button on the telephone base. He can indicate corrections, special instructions and the end of letters by touching another convenient button."

"Each dictator tied into the system has a private line to the recording machine. When he is dictating, nobody can cut in or eavesdrop.

(*Please turn to page* 194)



Use continuous Colitho Offset Plates or Readymasters in place of the ordinary paper in your tabulator and you can quickly *duplicate* the information when copies are required. You save tab time—do away with costly printed copy paper and your efficiency goes 'way up.

You'll choose Colitho Plates if you have offset duplicating equipment—Readymaster if you have spirit or gelatin machines. Any form can be preprinted on the Colitho Plate, or Readymaster. Perfect registration is automatic. Your duplicating department uses only inexpensive, plain paper to turn out completely filled-in forms—any number you need—accurately registered—clear and sharp. It's the way to add more productiveness to your working day.

For more information quickly, mail the coupon attached to your business letterhead.

Columbia Ribbon & Carbon Mfg. Co., Inc.
150-7 Herb Hill Rd., Glen Cove, L. I., New York
Branch Offices and Distributors in Principal Cities

Columbia

COLITHO OFFSET PLATES
If you have an offset duplicator

READYMASTERS
If you have spirit or gelatin machines

COLUMBIA RIBBON & CARBON MFG. CO., Inc.
150-7 Herb Hill Road, Glen Cove, L. I., New York P7

Please send me complete information about tabulator applications for:
☐ *Colitho Offset Plates* ☐ *Readymasters*

Name_____
Company_____
Address_____
City_____ Zone_____ State_____
Make and Model of offset duplicator_____
Make and Model of spirit duplicator_____

(*Continued from page* 193)

Should he wish to talk with the secretary, he can do so through his dictation telephone, which connects with a special phone at the recording machine.



Secretary transcribes from Audograph while PhonoAudograph (left) records dictation from another room.

"A secretary, receptionist or switchboard operator can supervise the new recording unit. Audible signals and lights tell her the machine is operating properly and when to change recording discs."

Heart of the new system is the company's disc recording and transcribing equipment introduced in 1947. Plastic discs of several sizes, holding up to a full hour's dictation, can be used. Discs are resurfaced and reused up to fifty times.

PORTFOLIO OF ORIGINAL LETTERHEADS

A portfolio of original business letterheads titled "How to Design a Letterhead" is announced by the Parsons Paper Co., Holyoke, Mass. Of the ten letterheads in the portfolio, two are three color, two are two color, and four are in one color. In the case of one of the two color letterheads, a third color may be "made" by overprinting one color on the other at no cost. One of the three color letterheads marks the 100th Anniversary of the Parsons company, and is accompanied by matching envelope. The portfolio is characterized as a beautiful example of attractive and pointed design in printed material.

SAVING BY USE OF ELECTRIC TYPEWRITER

Perhaps the most important decision a businessman must make before he buys a typewriter is—should it be manual or electric? The purchase price of an electric typewriter is about twice that of a manual, and the prudent businessman wants to know what he will get from his extra investment.

Users of electric typewriters have reported production increases ranging from 6 per cent to 50 per cent, according to the type of work being done. To assist businessmen interested in investigating time and money savings available through the use of electric typewriters, International Business Machines Corporation has prepared a slide graph. Based on the conservative estimate of a 15 per cent increase in production, and making standard allowances for depreciation, maintenance and cost of electricity, the graph makes it possible to see at a glance yearly net savings available under a variety of conditions.

For example, one chart shows that when a typist who is paid $55 a week spends an average of 5½ hours a day typing, $225 a year will be saved through the use of electric typewriters. On the reverse side of the graph, another chart shows that this is the equivalent of having one extra girl for twenty days a year at no extra cost.

Similar figures can be obtained in office situations where salaries vary from $35 to $75 a week, and where the time the machine is in use ranges from two to seven hours a day.

The slide graph can be obtained by writing to IBM, 590 Madison Avenue, New York 22, N. Y.

The Longer You Own It
The Better You Like It



The pride and enjoyment of owning a Steel Age Desk grows with each passing year. For every detail of this sturdy modern desk is crafted for superb comfort and efficiency . . . to serve you faithfully for a lifetime. *Every* Steel Age Desk is made of the finest materials . . . by craftsmen who cherish pride-of-work above all else. *We have never compromised with quality.* ● A desk like this is worth *seeing* . . . at your Steel Age Dealer's *now.*

Steel Age
Corry-Jamestown Mfg. Corp.
Corry, Pa.

At Leading Office Furniture Dealers from Coast-to-Coast

Simultaneous Delivery



Your Catalog, Sample, Price List or Layout . . . .
and your Personal Letter

Delivered Same Time

All Shepco envelopes—Only Shepco envelopes have *MINT-E-SEAL*® the FLAVOR FLAP

Sheppard ENVELOPE CO.

ONE ENVELOPE TERRACE, WORCESTER 4, MASS.
New York Office: 1133 Broadway, N. Y. 10
Free "New England Way" Folder-Write Dept. 105

BATTERY-OPERATED MIDGET TAPE RECORDER

"Interviewer" is the name of a battery-operated midget tape recorder announced by the Amplifier Corporation of America, 398 Broadday, New York 13, N. Y. The unit carries its own power supply of small dry cell flashlight batteries, and is designed to simplify recording of interviews and conferences. The Interviewer measures 11½" x 8½" x 5½" and weighs 9¾ lbs. including batteries which last 100 operating hours. The unit has a spring-wound drive motor and will run 15 minutes on a single winding. It may be rewound during operation. A warning light flickers on approximately one minute before rewind is necessary.



The Interviewer is designed to simplify recording of interviews and conferences.

Two hours of recording are accommodated on a reusable 5-inch reel of standard ¼" wide tape. The frequency range, up to 3,000 cycles, covers the full range of speech and permits accurate recording of individual speech characteristics. The sensitivity is sufficient to pick up normal conversations at a distance of 100 feet from the microphone. The machine also contains its own playback preamplifier which will feed directly into earphones or an external amplifier and speaker.

ROYAL TYPEWRITER ANNOUNCES DISTRICT CHANGES

The Royal Typewriter Company announces the following district manager changes:

Chicago: V. A. Hart, formerly Southern sales manager for the company, has been appointed Divisional Manager of the newly formed Great Lakes Division, with headquarters at 427 West Randolph Street.

Philadelphia: L. W. Siemering, formerly manager at Brooklyn, has

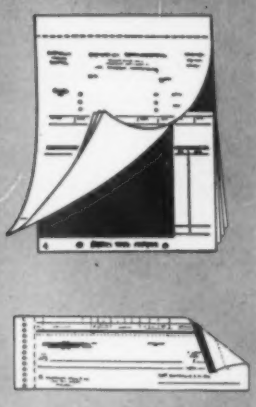
(*Please turn to page* 196)

Federal Specializes in COMPLEX Business Forms

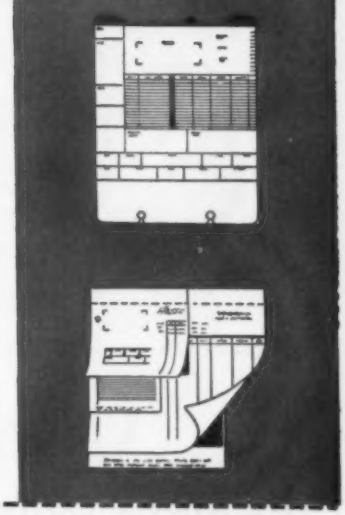
including



SNAP 'N PART Carbon-Interleaved Sets



Federal designs and prints forms to solve *your* business problems. We *specialize* in complicated carbon-interleaved sets of all sizes and combinations of sizes. And because we use only the fastest, most modern machines available, you can depend on us for finer precision-printing—*and* prompt delivery. Federal prices are attractive. Why not have us quote on your next job?



FEDERAL DESIGNS AND PRINTS multiple carbon forms . . . carbon-interleaved statements . . . voucher and payroll checks...spot carbon and die-cut carbon forms... business machine forms.

FREE FORMS FOLDER Federal Business Products, Inc.
DEPT. A
90 Gold Street, New York 38

Send me your free illustrated folder, "Short Cuts in Business Forms"

NAME_____

ADDRESS_____

CITY_____ ZONE____ STATE_____

FEDERAL Business Products, INC. PRINTERS OF BUSINESS FORMS SINCE 1926

90 GOLD ST. • NEW YORK 38 • CO 7-8850

Esterbrook®

"444" DESK PEN SET

ALWAYS READY TO WRITE... AND WRITES FOR MONTHS WITHOUT REFILLING!



Single and double sets in service and executive models to harmonize with any desk.

CHOOSE

THE RIGHT POINT FOR THE WAY YOU WRITE



Only a few of the more popular points shown. All points instantly replaceable in case of damage.

ASK YOUR STATIONER FOR A DEMONSTRATION

The Esterbrook Pen Company, Camden 1, New Jersey

The Esterbrook Pen Company of Canada, Ltd., 92 Fleet St., East; Toronto, Ontario

COPYRIGHT 1952, THE ESTERBROOK PEN COMPANY

(*Continued from page* 195)

taken over managerial duties at Philadelphia, filling vacancy created by appointment of H. W. Ulrey to the post of Southern Regional Sales Manager at Atlanta.

Brooklyn: W. E. Cone has been named manager. He was formerly manager at Albany.

Albany: A. Durstin, formerly manager of the company's Madison office, fills post vacated by Mr. Cone at Albany.

Madison: William Masterson, formerly a typewriter salesman at South Bend, has been appointed manager.

* * *

OLD TOWN ANNOUNCES NEW "COPYMAKER" MODEL 9S



New spirit duplicating machine, styled the "Copymaker", Model 9S, is announced by Old Town, Inc., 750 Pacific Street, Brooklyn, N. Y. The new machine features an automatic paper feed with patented single sheet feeding, master clamp and master release, and few controls. It will handle any weight of paper from 16 lb. to card stock, and any size from label or post card to 9″ x 14″. Other features include copy strength control, automatic post card feeding, and lifetime lubrication. The machine weighs approximately 24½ lbs., and requires 19″ x 12″ table space. It will produce 145 or more copies per minute. All rollers are mounted in ball bearings. Six colors can be produced at once on the machine, with one turn of the drum.

* * *

NEW OFFICE FURNITURE LINE IN PRODUCTION

A new line of desks and harmonizing office furniture is now in production at the Grand Rapids, Mich. plant of Hekman Industries, Inc., successors to Gunn Furniture company. Features of the new desks include dovetail construction in which rails, panels and posts are locked together with the drawer bearing dove-tailed to posts and glued to side panels, aircraft "shear" construction, and exceptional rigidity.

The desks have interchangeable drawers, island bases with adjustable steel glides which provide height range of from 29" to 30½", densified kneewell posts, and rounded top and post corners.



New walnut desk in the Heckman line

The complete line of manufacture includes tables, stands and bookcases as well as a complete variety of desks for executive, secretarial, and clerical use. The individual pieces are adaptable to each other so that complete groupings can be made or new units added at any time.

FOLDER DESCRIBES INDEX VISIBLE EQUIPMENT

Changing and maintaining reference indexes and records can often be a tiresome, time consuming, and difficult job. If vertical card files are used, cards are often hard to locate and sometimes every card must be looked at to find certain items. When a list is on sheets of paper, changes must often be made by writing or typing over the whole or a part of the list.

A new folder describing how Index Visible equipment can be used to maintain reference indexes and records has been published by Remington Rand Inc. Index Visible consists of die cut cards which button into runways in a way that brings their upper indexing edges into a fixed position with uniform visibility. These runways are attached to frames, Kardex slides, books, panels, or folders. The frames can be hung on rotary holders, desk stands and wall brackets.

The folder also describes Flexo Panels which have detachable and interchangeable runways where a row of "buttoned on" cards may be quickly moved to another row or another panel. Index Visible Flexo steel trays and stands that can be wheeled around are also available. The stands are also available in insulated models. Described also in this folder are Index Visible cards and signals which flash needed information on unusual conditions.

Information on Index Visible

(*Please turn to page* 198)



Only the COSCO EXECUTIVE is adjustable in so many ways . . . so easily!



Model 18-A
COSCO
Executive
$47.50
($49.50*)

• No other chair offers such style, quality, and value! And no other executive chair can match the COSCO Executive's six comfort adjustments, all made without tools!

Durable, all-steel construction, with foam rubber-cushioned, saddle-shaped seat and one-piece base. Du Pont "Fabrilite" upholstery and Bonderized, baked-on enamel finish in modern office colors. Get full details! Mail coupon today!

HAMILTON MANUFACTURING CORPORATION
COLUMBUS, INDIANA

*Zone 2: Florida, Texas, and 11 Western states.

COSCO Office Chairs

Good seating . . . in good taste . . . is good business

Also these COSCO favorites:



Model 15-S
Secretarial Chair
$32.50
($33.50*)



Model 20-A
Arm Chair
$27.50
($28.50*)

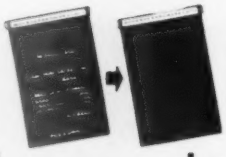
HAMILTON MANUFACTURING CORPORATION,
Dept. E-7, Columbus, Indiana
Please send, without obligation, name of nearest dealer and complete catalog.

Firm .....
By .....
Address .....
City .....
State .....

The *Autographic* REGISTER

with

SELF-RENEWING CARBON



duroqraphic

DUROGRAPHIC SELF-RENEWING CARBON—ink flows back into pencil indentations renewing the carbon surface.



—for uninterrupted service

● Turn the handle of an *Autographic* Register. Note its smooth, positive action—no looseness, play or lost motion anywhere. Only a quality product is built like this. Steel casing of adequate gauge, close-fitting parts, attractive Hammerkraft finish, chrome and stainless steel trim—these and other points of good design and workmanship insure durability and trouble-free service.

An important feature is Durographic "self-renewing" Carbon, exclusive with *Autographic* Registers. A single sheet outlasts an entire pack of forms and needs no attention between register loadings. This remarkable carbon is produced by impregnating Durographic paper with a special ink which flows into the pencil indentations after each write, automatically renewing the carbon surface. Uniformly clear and indelible carbon copies, deep purple in color, are the result.

Let our representative show you the *Autographic* Register and help you design the best records for your particular purpose. He is trained to develop systems that save time and money for register users.

Inserting Durographic Carbon in Model No. 12 Refolder, one of several Autographic Register models. Durographic Carbon is made in sheets, not rolls. Each sheet has a metal clip for hooking carbon in place in the register. By handling only the metal clip, hands are never soiled.



SEND FOR THIS FREE BOOKLET—it gives complete description of the several models of Autographic Registers and Durographic Carbon. Write or telephone for it today.

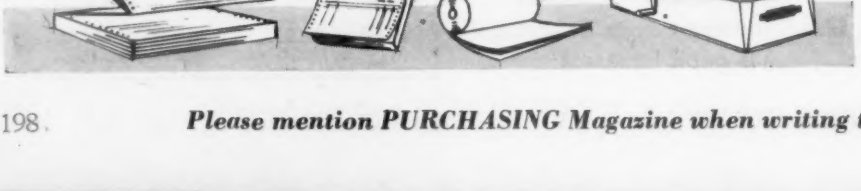


Autographic **BUSINESS FORMS**

AUTOGRAPHIC REGISTER COMPANY

219 7th Street, Hoboken, New Jersey

Founded 1883



(*Continued from page* 197)

reference equipment can be had free by writing for Folder KD 608 to Remington Rand Inc., 315 Fourth Ave., New York 10, New York.

PITNEY-BOWES, INC. OFFERS NEW POSTAL CHART

A comprehensive chart of new postal rates and information, complete with all recent changes, is now being offered gratis as a public service by Pitney-Bowes, Inc., Stamford, Conn. The company has already sent charts as a customer service to more than 100,000 users of its postage meters throughout the country.

Covering all classes of mail, and typographically designed for reading ease and accuracy, it is printed in three colors on stiff card stock. It folds for desk use and filing convenience, and opens up into a 12" x 18" wall chart to hang over the postage meter at the mail desk or in the shipping room.

A special feature on the back of the chart is a parcel post zone map of the United States with a "self-zoning" mileage rule by which the user himself can easily mark off in colored pencil the arcs or circles of all the country's eight parcel post shipping zones from whatever town or city he happens to be located in.

COLOR GUIDE FOR OFFICE OR PLANT

A new booklet on the use of color in interior design is being offered by Royal Metal Manufacturing Company, producers of metal furniture for all types of professional, commercial and institutional interiors. Called "Miss Brush and Mr. Bucket," this handy-size booklet is primarily a layman's guide, offered to give the factory superintendent, office manager or shop owner a basic understanding of color and its many uses.

The booklet covers such topics as "Color and Human Moods," "Associating Colors with Atmospheres," "Relation of Color with Materials" and "Tricks of the Trade." A practical Color Guide shows at a glance what colors should be used on walls, ceilings, drapes and in floor coverings to blend with certain colors of chairs and upholstery.

For a copy of "Miss Brush and Mr. Bucket" write on your business letterhead to Royal Metal Manufacturing Co., 173 N. Michigan Avenue, Chicago 1, Illinois.

SMALL ELECTRIC FOLDING MACHINE ELIMINATES HAND FOLDING

An electric office folding machine, little larger than a typewriter and costing not much more, will be put on the market this month by Pitney-Bowes, Inc., Stamford, Conn. Termed the first true desk-model folding machine, it is designed and priced to eliminate the drudgery and clerical cost of hand-folding of paper forms in even the smallest business office.

The new office aid can fold with precision up to 5,000 sheets an hour, and is simple enough to be operated by any office worker. It can be "set up" in about one minute for any folding job by means of a simple measuring rule and the adjustment of two indicator knobs. It



The machine folds up to 5000 sheets an hour.

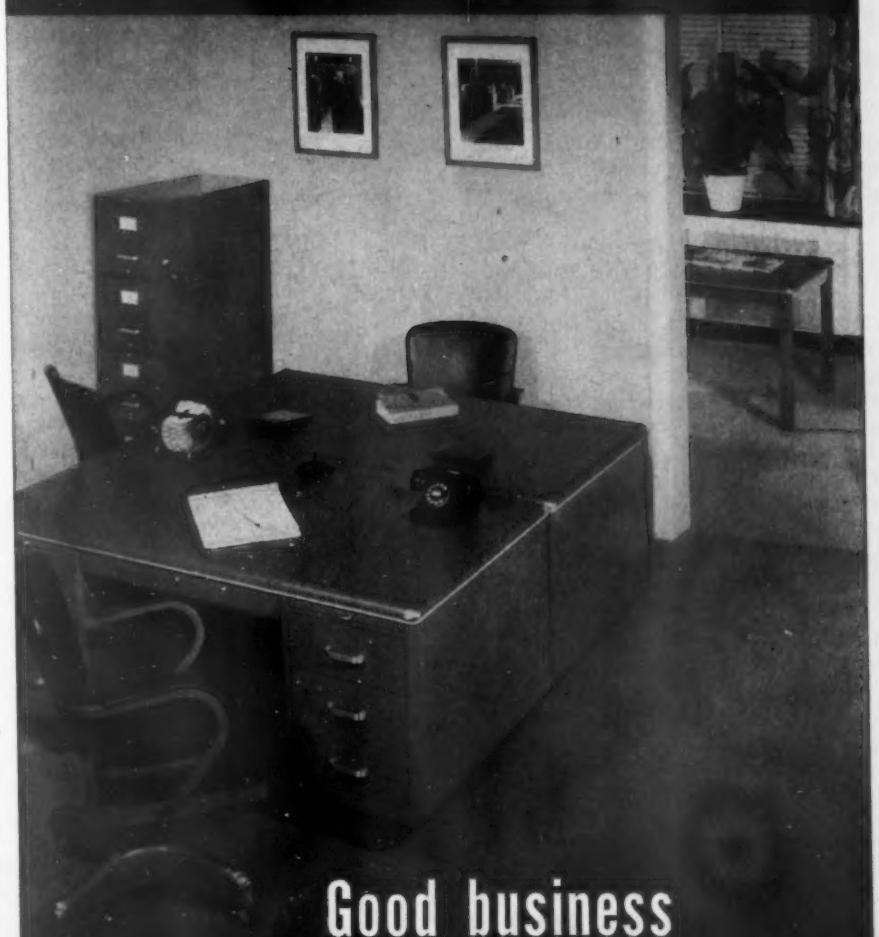
feeds and stacks from the same end, thereby saving working space and enabling the operator to remain in one position. Sheets are stacked in the hopper and lightly moved by finger to feed rollers where the electric machine takes over and folds automatically.

It can perform two parallel folds in one operation, and can make any one of eight basic types of folds, handling a wide variety of paper sizes and weights. Included are duplicating, bond, ledger, book, coated and uncoated papers in sizes ranging from 3 inches square to 8½ inches by 14. It is 12 inches wide, 7¼ inches high and 22½ inches long, including its detachable stacker. The machine is portable and can be conveniently stored when not in use, weighing only 23¾ pounds.

The new "Model FH", as it is known, is a more compact, low cost version of the heavier-duty "FM" folding machine introduced by Pitney-Bowes two years ago.

(*Please turn to page 200*)

IN THE FINEST OFFICES . . . CRESTLINE, OF COURSE



Good business follow-through

Good looking, efficient offices, not only in the reception room, but all the way through all your offices work for you in two ways. The people who call upon you are favorably impressed, for your offices are always a direct reflection of your way of doing business. And for your employees, you have made an investment in the best equipment so they can do their best work. CRESTLINE Office Furniture will give you this vital "good business follow-through."

We'll be happy to send you the name of your nearest Security CRESTLINE Dealer . . . no obligation, of course.

CrestLINE by SECURITY STEEL EQUIPMENT CORPORATION AVENEL, NEW JERSEY

Created by SECURITY STEEL EQUIPMENT CORP., AVENEL, NEW JERSEY

FOLDER PRESENTS HISTORY OF MECHANIZED ACCOUNTING SYSTEM

Increasing and more complex payrolls during the past few years have caused many of the older methods and systems to become outmoded. Manufacturers in particular have experienced this rapid change and now are turning more and more to the mechanization of payroll and other accounting procedures.

A new folder just published by Remington Rand describes how the Pesco Products Division of the Borg-Warner Corporation mechanized their accounting systems through the use of punched card equipment. The company originally used tabulating equipment for labor cost-distribution functions. The job cards used in the tabulating machines were then applied to payroll procedures. Progressively, punched card equipment was used to make up the entire payroll.

Today through summarizing, reproducing, and collating with the proper master cards, the tabulating equipment is able to do payroll registers; checks; statistical records of all kinds; sales analysis; Social Security; personnel records; and seniority rosters. From payroll the next tabulating task was accounts payable distribution, then accounts receivable and now all their accounting work is done by punched card equipment.

Further details on this mechanized accounting "Case History" can be secured free by writing for Systems S-1770 to Remington Rand Inc., 315 Fourth Avenue, New York 10, N. Y.

DISC IS RE-USABLE 10,000 TIMES OR MORE



The Rex Recorder is said by its maker, the American Dictating Machine Co., Inc., 65 Madison Ave., New York, N. Y., to be the first true dictating machine application of "The Magnetic Principle of Recording". The company states that magnetic recording is free of surface or background noise, is erasable, and that the recording disk is re-usable 10,000 times or more. Spot corrections are made by dictating over mistakes. The new machine is said to provide for immediate access to all parts of recording, perfect marking of length of letters and corrections—word, phrase or sentence backspacing, and stopping and starting without clipping of words or noise interference. The Recorder is available in three different units—the dictating unit complete with microphone, the transcribing unit complete with choice of headset and foot pedal, and the combination unit which is completely equipped for use as a dictator or a transcriber.

COMPLETE MICROFILM READING WITH COMPLETE PORTABILITY

The Remington Rand Griscombe Portable Reader is now available for reading both 16 mm and 35 mm microfilm at any location where such records exist.

The only portable reader that can be used with both 16 mm and 35 mm, the image can be viewed on either a desk-top opaque, glareless 14" x 14" screen that folds for stor-

KOH-I-NOOR
LEADS & HOLDERS



2200 Koh-I-Noor Graphite Leads
17 Degrees of Accurate Grading
Recognized by Draftsmen the World Over for Dependable Service
Packed Six of a Degree in a Protective box
Smoothness, Strength, Uniformity combined with long lasting qualities

AND NOW

2200 KOH-I-NOOR FLEXICOLOR LEADS

"The Lead That is Really Flexible"
UNSURPASSED BREAKING STRENGTH
SEVEN COLORS AND COMBINATION OF RED AND BLUE — RED AND YELLOW

★

All the above leads for use in 1504, 1511, 5611 or 5612 Holders

By the Makers of The Famous KOH-I-NOOR DRAWING PENCILS

KOH-I-NOOR PENCIL COMPANY, INC., BLOOMSBURY, NEW JERSEY



VAN DYKE
Typewriter eraser. Medium soft texture, excellent for correcting originals or carbon copies. Available with (No. 6587) or without (No. 6580) brush.

PAPER-MATED ERASERS

EFFICIENT
ECONOMICAL



PINK PEARL
Pencil eraser. Makes correcting easier. Cleans as it erases. In large (No. 101) and medium (No. 100) sizes.

DESIGNED TO DO A BETTER JOB...by

EBERHARD FABER

Trade Marks Reg. U. S. Pat. Off.

SINCE 1849

age in the carrying case, or, by a simple adjustment of a mirror in larger size on any light colored wall or screen.

For detailed examination, a simple, split-second shift of lenses changes the magnification from 17 times to 23 times. Every section of full-size 35 mm microfilm document can be viewed by moving a scanning arm. The projection head can be turned through a full circle to place any image in a reading position. Film can be advanced at any speed desired.

The Remington Rand Griscombe Portable Reader weighs only 17 pounds and is durably constructed to meet heavy duty service under any and all conditions. The carrying case, 10" x 13" x 11½", contains space for screen, extra lamp and lens, and microfilm reels.

Bulletin F263 describing the Remington Rand Griscombe Portable Reader will be sent on request by writing Remington Rand Inc., 315 Fourth Avenue, New York 10, N. Y.

FANFOLD LABELS FEED FROM PACKAGE TO TYPEWRITER



A distinctive innovation in packaging its Fanfold gummed folder labels has been announced by The Globe-Wernicke Co., Cincinnati.

The new design combines a practical packer that facilitates handling in actual use. The packer's unique construction enables the user to feed labels directly into the typewriter in a continuous strip and also to type uniform margins. A window end affords immediate identification of the packer's content.

Fanfold Gummed Folder Labels are in different colors for flash finding. They are neat and they strengthen the folder tab and permit re-use of the folder.

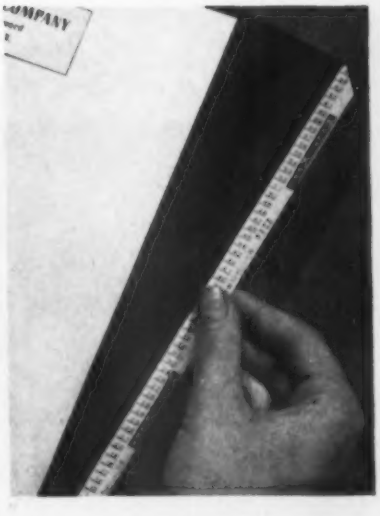
Tip from America's Top Secretaries



"The numbered scale edge is a time-saver and a great convenience" ..says ADELAIDE SMART Secretary to Mr. Richard S. Morse President of the National Research Corporation Cambridge, Mass.

Webster's MultiKopy Micrometric Carbon Paper helps secretaries turn out neater work faster. It saves time wasted in re-typing letters; cuts costs in day-to-day office operations.

Micrometric's numbered scale edge shows exactly how many lines of typing space remain on every page. Letters can be centered and spaced perfectly with no "guesswork", no danger of running over the page. Letters look better, too, because Micrometric impressions are always clean and sharp. And with the uncoated scale edge it's easy to remove carbon sheets without smudging.



Micrometric's long-lasting coating and the exclusive numbered scale edge cost no more than other high quality carbons. You'll find Micrometric at stationers everywhere along with a complete line of Webster typewriter ribbons and duplicating supplies. Or write to

F. S. WEBSTER COMPANY

7 Amherst Street, Cambridge 42, Mass.

AMONG THE Associations



Rock River Valley Assn. Elects New Officers

A. R. Middleton, Weiman Company, was elected president of the Rock River Valley Purchasing Agents Association at a recent meeting. Other new officers are: O. C. Sanders, Parker Pen Company, first vice-president; G. C. Minehart, Twin Disc Clutch Company, second vice-president; P. J. Donahue, Conco Engineering Works, treasurer; W. T. Whitcomb, Eclipse Fuel & Engineering Company, secretary; D. H. Davis, Rockford Machine Tool Company, national director. Directors are: C. G. Knott, Rockford Clutch Corp., Div. of Borg-Warner Corp., E. P. Olson, Elco Tool & Screw Corporation; J. C. Villa, J. L. Clark Mfg. Company; C. C. Edson, Kable Printing Company; A. G. Wilson, Reynolds Wire Company; M. L. Stark, The Turner Brass Works.

The May meeting held at the Faust Hotel, Rockford, Ill., was presented by representatives of three phases of steel production, covering "Steel—the Mill, the Cold Finisher, the Warehouse, and How They Serve You." W. J. Jack, assistant sales manager, Republic Steel Corp. represented the rolling mill. M. G. Sladek and E. A. Hoffman, manager and metallurgist of LaSalle Steel Company covered cold finishing. The warehouse picture was presented by Don Andes, manager of sales, warehouse division, Jones & Laughlin Steel Corporation.



"Colonel" A. R. Middleton, left, Rock River Valley president, with D. H. Davis, national director. The beaver is part of Rockford's Centennial Celebration.



Officials of the Rock River Valley Association with C. F. Ogden, N.A.P.A. president, at a recent meeting: Seated, l. to r., G. E. Andrews, Barnes Drill Co.; Mr. Ogden, D. H. Davis, Rockford Machine Tool Co.; G. C. Minehart, Twin Disc Clutch Co. Standing, l. to r., W. T. Whitcomb, Eclipse Fuel & Engineering Corp.; A. R. Middleton, Weiman Company; W. T. Williams, Gunite Foundries; O. C. Sanders, Parker Pen Company.

John Snedeker President of New York Assn.

John F. Snedeker, Binney & Smith Company, was elected president of the Purchasing Agents Association of New York at the annual meeting held on June 17 at the Builders' Exchange Club.

Other new officers of the association are: Michael D. MacBurney, Barrett Division, Allied Chemical & Dye Corporation, first vice-president; Stanley W. MacKenzie, United States Rubber Company, second vice-president; Edward B. Fielis, treasurer. Edward M. Krech, J. M. Huber Corporation, and William H. Old, American Brake Shoe Company, were named as members of the executive committee for a three-year term.

Principal speaker at the May meeting of the association was Louis J. Alber, business executive, world traveler and foreign correspondent. Mr. Alber's subject was "Kremlin Blueprint—1952."

The afternoon forum featured a discussion on "Folding Cartons" supplemented by a full-color motion picture entitled "The Magic Box." Guest experts at the session were William H. Walters, president, U. S. Printing & Lithograph Company, and William B. Leavens, Jr., president of the Wilkata Folding Box Company.

* * *

BASIC METALS FORUM DRAWS LARGE CROWD AT PITTSBURGH

All records for membership attendance were shattered at the "Basic Metals Forum" presented at the May meeting of the Purchasing Agents Association of Pittsburgh. The program was arranged by a "junior organization", composed of new members of the association. A whole slate of officers was set up within this organization, headed by A. M. Kennedy, Jr., as president, to work out the program.

Guest speakers at the forum, and their subjects, were: Avery C. Adams, president, Pittsburgh Steel Company, steel; Charles R. Cox, president, Kennecott Copper Company, copper; and Donovan Wilmot, vice-president, Aluminum Company of America, aluminum.

The annual summer stag party of the association was held on Tuesday, June 17 at the Highland Country Club.



PLAN TOMORROW'S CHARGING ROOM TODAY!

This free 20-page booklet showing efficient, charging room layouts is just what you need to put system into your battery charging operations. It's the latest addition to the vast fund of technical information available to you under the Gould Plus-Performance Plan. Shows how cranes, hoists, battery stands, charging equipment and stations can be located in any size room for maximum efficiency, handling speed and safety. You'll need it tomorrow . . . so send for it TODAY.



The Gould "Thirty" America's Finest Industrial Truck Battery

You may be able to save up to 50% on your industrial truck battery costs by using the Gould Plus-Performance Plan. Write Gould Battery Information Headquarters for full information.

GOULD *Industrial Batteries*

GOULD-NATIONAL BATTERIES, INC., TRENTON 7, N. J.

Always Use Gould-National Automobile and Truck Batteries

Purchasing Personalities at the Annual Convention

Mr. and Mrs. C. Warner McVicar, Pittsburgh, pause on the boardwalk before one of the sessions (left). Dick Clark, Hoyt Pritchett and T. A. Laugesen of Louisville, (right) setting out for a stroll.







Purchasing's booth was a popular meeting spot. H. M. Van Cleaf, New York, and F. K. Johnston, NPA, study the Opinion Ballot at left. E. O. Mulligan and I. H. Gaston, Baltimore, right, look over the May Purchase for Profit issue.



From Chicago came Mr. and Mrs. Ivor Hughes, right, and W. B. Burnet, a regular participant in the important Non-Ferrous Metals Forum, left.









Old friends Ed Fielis, New York, and Jim Cooney, Rochester, meet at Purchasing's booth, right. At left is a group of Alabamans gathered in their Association's active room.

Build "*tenths of tenths*" measuring into your equipment

Brown & Sharpe Electronic Amplifier No. 950 for .0001" to .00001" readings. Gage Head Cartridge No. 953 is plugged in.

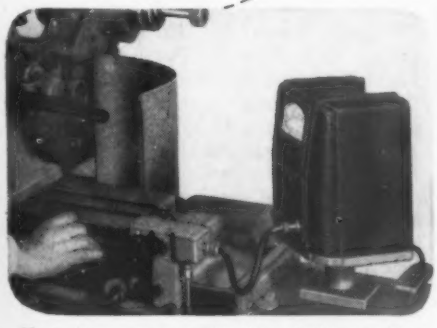


Versatile Brown & Sharpe Electronic Measuring Equipment is easily adapted to your machine or fixture design. It provides fast, accurate setting or gaging to .00001" *with human error practically eliminated.*

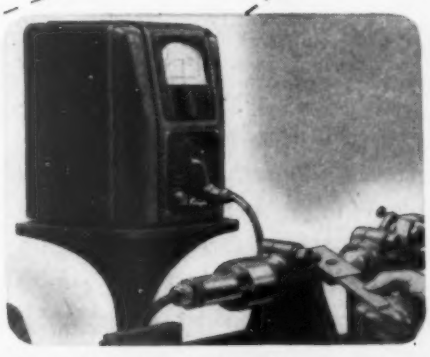
An outstanding advantage is the separate amplifier unit which isolates heat-producing elements, preventing temperature drift in gaging units. It's economical, too — you can design inexpensive Gage Head Cartridges into several fixtures and use the same amplifier for all of them. True linear response of the amplifier eliminates the need for "go" and "no go" masters — just "zero" the pointer on initial set-up and read variations directly from the accurately graduated dial.

These are but a few of the many advantages of Brown & Sharpe Electronic Measuring Equipment. Write for detailed Bulletin. Brown & Sharpe Mfg. Co., Providence 1, R. I., U. S. A.

Visit Booth No. 1435
A. S. T. E. Show, Chicago.



Electralign — an application of this precision electronic equipment in Brown & Sharpe's own grinding machines. Permits fast, accurate setting of swivel table for precision grinding straight work or exact tapers after a single trial grind.



Gage Head Cartridge No. 953 mounted on fixture to measure a fixed gage . . . used with Amplifier No. 950. Standard comparators for external or internal measuring also available.



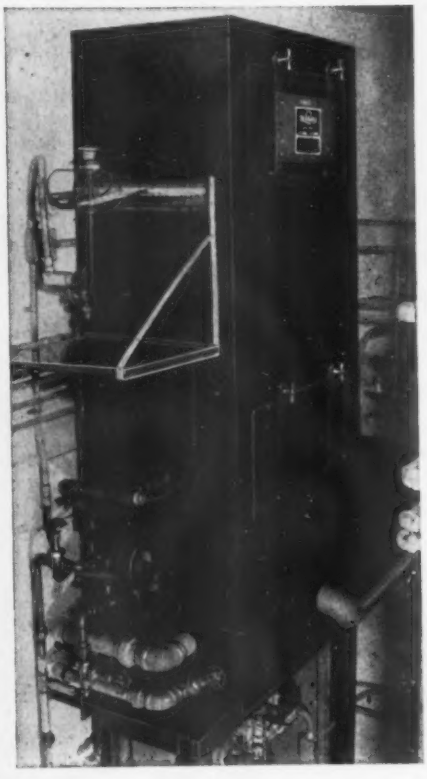
Special fixture utilizes Gage Head Cartridge and Amplifier to measure internal angle accuracy to ± 1½ seconds independently of bore size and without reference to locating surface.

WE URGE BUYING THROUGH THE DISTRIBUTOR

Brown & Sharpe

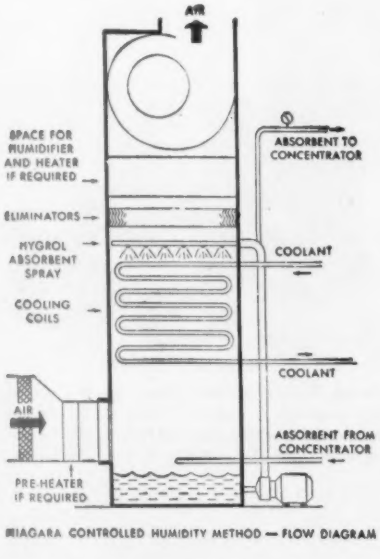
New "Controlled Humidity" Method Gives a Better Solution to Air Conditioning Problems

"Hygrol" Absorbent Liquid Dehumidifies Fresh Air Without Refrigeration



NIAGARA Air Conditioners or Dehumidifiers using "Hygrol" liquid absorbent give precise control of air temperature and humidity... at lower operating cost, with large savings in space and with smaller and less expensive equipment, in many applications.

This method dehumidifies the air by passing it through a chamber in which "Hygrol" spray removes its moisture and produces a low dew point. The "Hygrol" solution resulting is continuously and automatically re-concentrated, providing always full capacity in air conditioning and assuring always a constant dehumidifying capacity and a trustworthy, constant condition for your material. apparatus, process or room to be conditioned.



NIAGARA CONTROLLED HUMIDITY METHOD — FLOW DIAGRAM

"Hygrol" is a liquid, not a salt solution; it stays pure and non-corrosive; it does not cause maintenance or operating troubles in food plants or in chemical processes.

Investigate this new Niagara Method for "comfort" air conditioning as well as to protect quality in hygroscopic material, or processes or instruments, or to prevent condensation damage to metals, parts or products.

Write for Specific Information

NIAGARA BLOWER COMPANY

Over 35 Years Service in Industrial Air Engineering

Dept. PU 405 Lexington Ave. New York 17, N. Y.

Experienced District Engineers in all Principal Cities of U.S. and Canada

NEW ORLEANS ASSOCIATION HEARS CONVENTION REPORTS

A regular monthly dinner meeting of the Purchasing Agents Association of New Orleans was held at the St. Charles Hotel on Monday, June 9. This was the last meeting before the summer season.

The program featured reports by members of the association who had attended the annual convention of the National Association of Purchasing Agents at Atlantic City.

OREGON ASSOCIATION ELECTS DON J. TENNEY PRESIDENT

The Purchasing Agents' Association of Oregon has elected Don J. Tenney, Crown Zellerbach Corp., Portland, as president for 1952-53. The outgoing president, Merritt L. Simmons, Portland Traction Co., becomes national director.

New vice-president is Winston S. Bunnell, Oregon Steel Mills. A. D. Rolfe, Iron Fireman Manufacturing Co., heat control division, was elected secretary and Harold E. Bloyd, Roberts Motor Co., treasurer.



Don J. Tenney

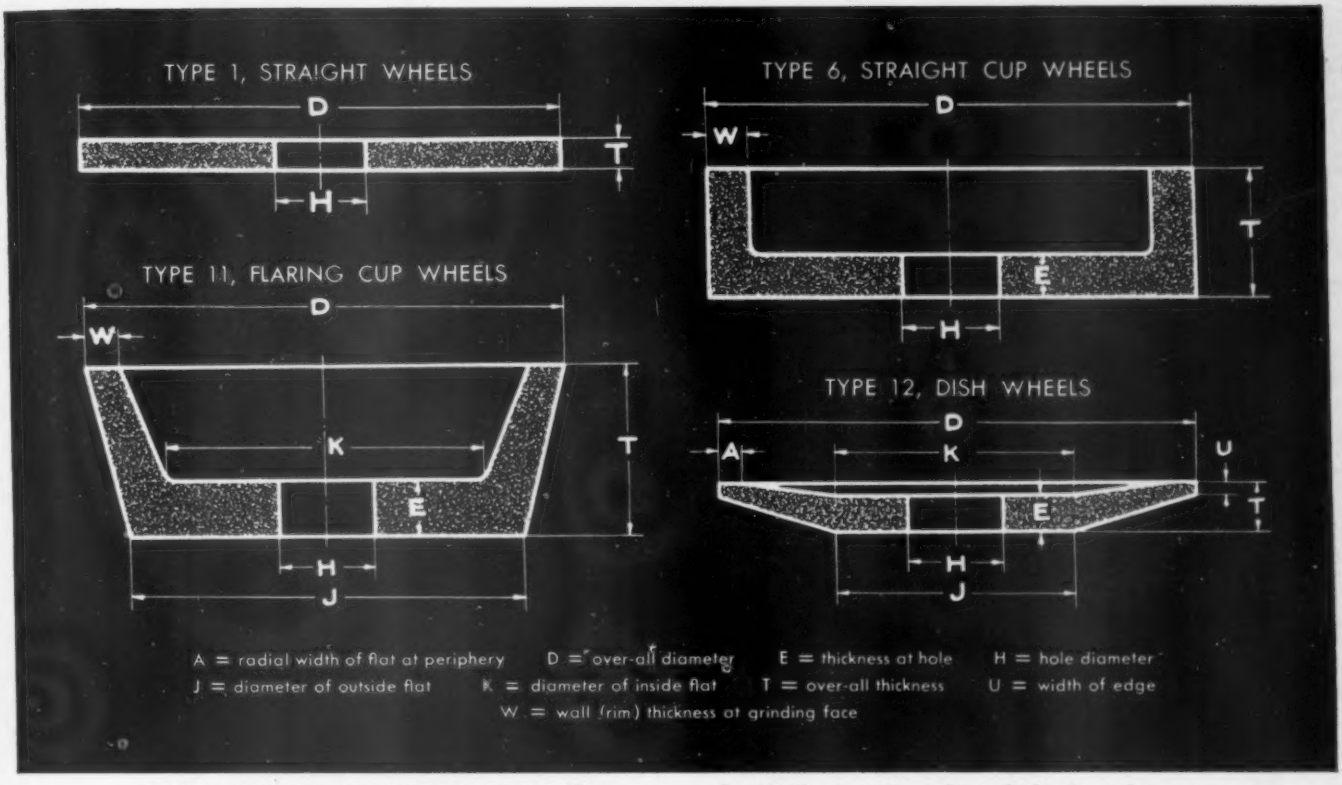
Curtis E. Anderson, Northwest Industrial Laundry; E. J. Fitzpatrick, Monarch Forge & Machine Works; Maynard S. Miksch, Pacific Power & Light Co., and E. O. Haymond, Shell Oil Co., become executive committee members. All are of Portland.

At the annual election meeting, W. H. Hayden, Portland General Electric Co. was named winner of the group's newly-established annual Gavaliers club award, in the form of an engraved desk set, for outstanding service to the Oregon association and upbuilding of the purchasing profession.

Kenneth A. Schmitz, E. J. Bartells Co., won the annual Sam A. Gilletee memorial trophy for the year's outstanding job in membership-building and attendance.

Held in conjunction was the annual Past Presidents' night, when the following ex-presidents and honorary members received special honors: Sidney F. Woodbury, founder of the Oregon group

(*Please turn to page* 210)



WHAT ARE STANDARD GRINDING WHEELS? They are the sizes and shapes selected by the National Bureau of Standards on the basis of: (1) widest use by industry; (2) widest range of adaptability to modern grinding equipment; and (3) most commonly carried in manufacturers' and distributors' stocks.

Specifically, in tool grinding wheels alone, there are 72 different "standards" in the four types shown above. For your convenience, they are listed in easy-to-read charts in "Standard Shapes and Sizes of Grinding Wheels" issued with the permission of the National Bureau of Standards.

How standard grinding wheels help you 3 ways

1. When you *specify* standard sizes and shapes of all grinding wheels, you stand a better chance of getting prompt delivery. That's because grinding wheel manufacturers make more "standards" and stock more of them.

2. When you *order* "standards" instead of "specials," you tie up less money in inventory, since you cut down on the number and variety of wheels you have to stock.

3. When you *use* "standards," you benefit from carefully engineered strength at *all* vital points in *every* standard grinding wheel.

Yes, indeed, standard sizes and shapes of grinding wheels help you save time, money, and trouble.

IT'S EASY TO ORDER "STANDARDS." Just check your present wheels against the simple charts in the bulletin "Standard Shapes and Sizes of Grinding Wheels," if you already have a copy. If you haven't, check the coupon below and mail it today.

GRINDING WHEEL INSTITUTE, 2130 Keith Bldg., Cleveland 15, Ohio

Please send me my copy of "*STANDARD SHAPES AND SIZES OF GRINDING WHEELS.*"

Also the following checked booklets to help me improve my use of grinding wheels:

☐ Safe Speeds for Grinding Wheels ☐ Safe Rules for Disc Grinding ☐ Mounting Techniques for Wheel Sleeves on Cylindrical Grinding Machines ☐ Safe Operation of Portable Grinding Machines ☐ Safe Rules for Handling, Storing and Inspecting Grinding Wheels ☐ Maintenance Recommendations of Heavy Speed, Heavy Duty Swing Frame and Floor Stand Grinding Machines ☐ Standard Specifications of Segments Used in Chucks ☐ Safety Code: The Use, Care and Protection of Abrasive Wheels

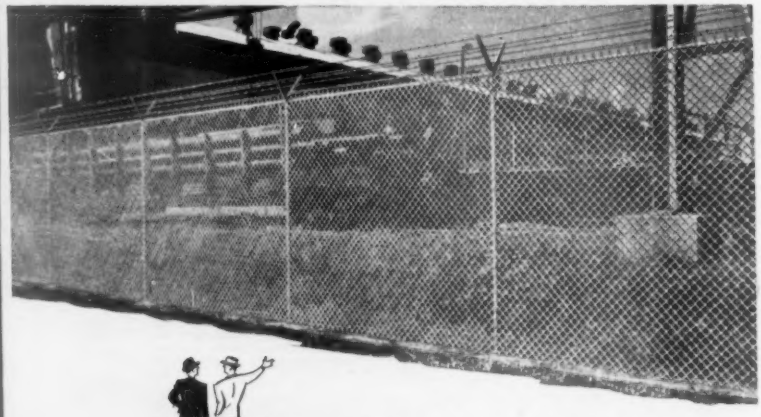
Name..... *Title*.....

Address.....

City..... *Zone*..... *State*.....

PAGE FENCE - Since 1883

• AMERICA'S FIRST WIRE FENCE •



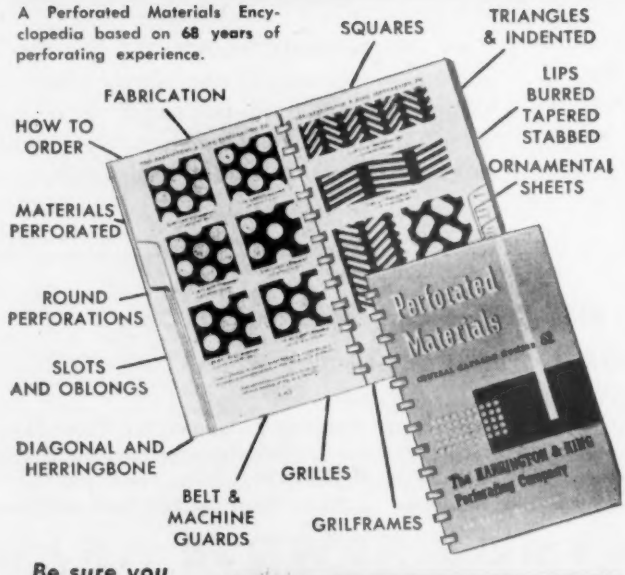
Security is vital today as never before. Protection at property lines has been the responsibility of Page Chain Link Fence for more than 60 years. There are fence styles and gates to meet any protective need. The expert erecting firm near you will supply facts and submit cost estimates without obligation. Firm name will be sent with fence data on request.

Write to PAGE FENCE ASSOCIATION in Monessen, Pa., Atlanta, Bridgeport, Chicago, Denver, Detroit, Los Angeles, Philadelphia, New York or San Francisco.

PRODUCT OF PAGE STEEL & WIRE DIVISION OF AMERICAN CHAIN & CABLE COMPANY, INC.

What is Perforated Material?
Where to use Perforated Material
Why H & K Perforated Material?

A Perforated Materials Encyclopedia based on 68 years of perforating experience.



Be sure you have H & K General Catalog 62 —Write for it

The Harrington & King PERFORATING Co.

5678 Fillmore St., Chicago 44, Illinois
114 Liberty St., New York 6, N. Y.

(*Continued from page* 206)

in 1919; J. C. Meece, president 1928-29; Frank Fitzpatrick, 1931-32; J. A. MacTarnaghan, 1932-33; C. H. Clark, 1934-35; L. A. Baumhover, 1937-38; Fred Nowotny, 1939-40; Harold H. Cake, 1940-41; Matt Pouttu, 1943-44; Gordon T. Hanson, 1944-45; W. W. McCulloch, 1947-48; R. P. Stockwell, 1948-49; J. C. Jones 1949-50; E. O. Haymond, 1951-52; Don Henderson, veteran editor of the Oregon Purchasing News.

CLEVELAND ASSN. GOLF MEET

The annual golf tournament of the Purchasing Agents Association of Cleveland was held on Friday, June 20, at the Sleepy Hollow Golf Club. Dinner was served at the club in the evening.

The association's annual picnic for members and their families is planned for July 24, at Euclid Beach Park.

W. C. LIGHT NEW PRESIDENT OF SAGINAW VALLEY ASSN.

Warren C. Light, A. T. Ferrell Company, Saginaw, Mich., was elected president of the Saginaw Valley Purchasing Agents Association at a recent meeting. Other new officers are: O. J. Murphy, Jackson & Church, Saginaw, vice-president; Robert Byrne, Baker Perkins, Inc., Saginaw, secretary; Carl Vass, Leonard Refineries, Inc., Alma, Mich., treasurer; Wendell Larsen Bay City Shovels, Inc., Bay City, Mich., national director. Members of the executive committee are Larry Johnson, Eaton Mfg. Co., Vassar, Mich., and Richard Maatman, Mitts & Merrell, Saginaw.

The May meeting of the association was combined with a plant visit to Leonard Refineries, Inc. Groups toured the Leonard refinery plant and the Lobdell Emery Mfg. plant. They were the guests of the Leonard Refineries at a social hour preceding a chicken barbecue. Guest speaker at the meeting was Charles Fiske, Leonard chemist. His topic was, "The Evolution of Oil Refining in Michigan." A film entitled "What Makes Gasoline Good?" was shown.

LOS ANGELES ASSOCIATION NAMES LORTSCHER PRESIDENT

Frank D. Lortscher, Signal Oil and Gas Company, was installed as president of the Purchasing Agents Association of Los Angeles at the June 19 meeting of the association. Elections were held at the May meetng.

Other officers installed for 1952-53 are: Wm. T. Reynolds, Los Angeles Transit Lines, first vice-president; David L. Wilt, University of California - Los Angeles, second vice-president; Bert M. Pulver, Barker Bros. Corp., secretary; Arthur Baker, 412 West Sixth St., Los Angeles, executive secretary; J. R. Hairgrove, Braun Corporation, director; E. B. Long, U. S. Lime Products Corp., director. Fred V. Keenan, Keenan Pipe & Supply Company, is national director.

(*Please turn to page* 212)

Squirrel cage motors, slip ring motors, synchronous motors, repulsion induction motors, capacitor motors, direct current motors . . . open, enclosed, splash-proof, fan-cooled, explosion-proof . . . horizontal or vertical . . . for all phases, voltages and frequencies . . . in single speed, multi-speed and variable speed types . . . with or without flanges or other special features . . . with 5 types of gear reduction up to 432 to 1 ratio . . . with electric brakes . . . with mechanical variable speed units . . . and for every type of mounting . . . Master has them all and so can be completely impartial in helping you select the one best motor drive for YOU

And all of these, the electric motors . . . the electric brakes . . . the gear reduction units . . . the variable speed drives . . . all are designed so they can be easily combined together to give you the RIGHT horsepower, the RIGHT shaft speed, the RIGHT mounting features in one compact power drive.

That's the horsesense way to use horsepower whether you want 1/8 horsepower or 200 horsepower.

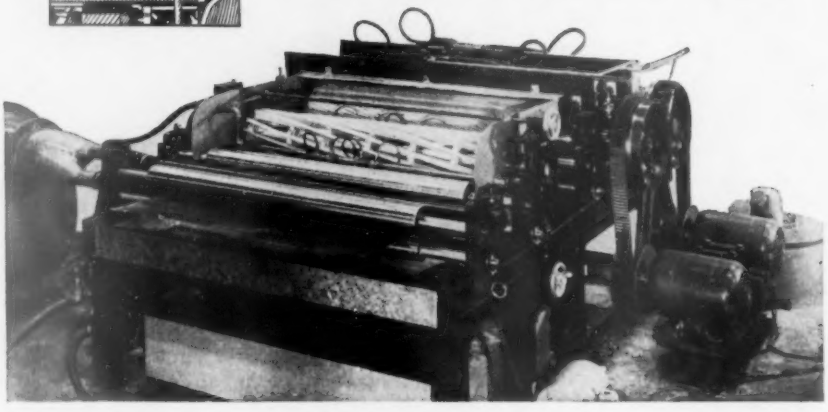
THE MASTER ELECTRIC COMPANY
DAYTON 1, OHIO

1/8 TO 200
HORSEPOWER





How Extra Process OF FULLERGRIPT BRUSHING Lowers Cost OF FINISHING LAMINATED PLASTIC PANEL SURFACES



In your kitchen, or at your favorite coffee shop, you have admired laminated plastic counter tops, because of their resistance to abuse, stains and heat. But you are not likely to suspect the great amount of engineering that has been spent in developing their satin-finish surfaces.

The problem of finishing derives from the method by which these panels are molded — stacked in a press like a huge, many-layered plastic sandwich, with each potential panel separated by a steel "pressing plate". It is this plate that gives the panel surface its smoothness.

If the steel plate has a mirror finish, the plastic panel will come from the press with its surface too shiny; yet satin finish plates get worn with use — then panel surfaces do not match, and soon the plates must be refinished at great expense.

The solution was found when plastics engineers got their heads together with FULLERGRIPT engineers. These experts at The Fuller Brush Co. devised a process of passing the completed panels under a rotating, cylindrically shaped FULLERGRIPT power brush . . . in fact, these engineers even designed the brushing machine.

As a consequence, finish quality is now controlled entirely at the brushing operation. Panel finish is uniform, both in texture and "color", for a perfect match; finish variations from molding press operation are eliminated. Also, "pressing plates" can all be mirror finish, thus saving cost of plate refinishing; minor scratches in the plates, inevitable from handling, now disappear from panels when they are buffed by the whirling brush. This means the plates can be used much longer.

These savings not only pay for the extra operation, but according to one panel manufacturer, actually earn back the cost of the machine in a two year period.

Similar cases where power brushing solves a production problem occur in every industry. It will pay you to talk to FULLERGRIPT engineers. Write today.

Fullergript
AT HOME...IN BUSINESS, TOO

INDUSTRIAL Fuller BRUSH CO DIV.

3554 MAIN STREET HARTFORD 2, CONN

Wet and Dry Mops, Brooms, Waxes and Polishes, Floor and Special Brushes

WALTER BARNEY NEW R. I. ASSOCIATION PRESIDENT

At the recent annual meeting of the Rhode Island Purchasing Agents' Association held at the Wannamoisett Country Club, Walter G. Barney, purchasing agent of the Kennecott Wire and Cable Company, was elected president. He has served as first vice-president during the past year and has been a member of the board of directors as well as chairman of many committees during his membership. He graduated from Brown University in 1936, and upon graduation became affiliated with the Kennecott Wire and Cable Company at Phillipsdale, Rhode Island.

The Association also elected the following officers: first vice-president, William J. O'Brien, U. S. Rubber Company; second vice-president, Morris Martin, Nicholson File Company; secretary-treasurer, Arnot Hirst, Providence Gas Company; national director, Howard R. Smart, Jr., Standard Nut and Bolt Company.

CONTROLLER GUEST SPEAKER AT DALLAS ASSN. MEETING

At regular meeting of the Purchasing Agents Association of Dallas was held on June 12. R. L. Brummage, controller for Dresser Industries, Inc., was the guest speaker.

The association's annual stag party was held on May 16.

EDITOR RICKER OF M.P.A. HONORED BY TWO GROUPS



Mr. Ricker receiving the silver tray

In recognition of his 20 years as pioneer editor-publisher of Midwest Purchasing Agent Magazine, R. R. Ricker was re-elected chairman of the regional purchasing publication editors group at the annual N.A.P.A. convention in Atlantic City, and was presented a silver tray by Glenn Hackett, president of the Purchasing Agents Association of Cleveland at a banquet-meeting in the Cleveland Hotel recently.

The editors group represents all regional purchasing publications in the U. S. This is Mr. Ricker's second consecutive year as chairman.

(*Please turn to page* 216)



Check These 2 Ways to Cut Drive Costs

TEXROPE V-Belt Drives with low cost 1800 rpm motors will often do work of expensive motors and control.

For example you can:

1. Provide slow speed (such as 450 rpm) at the driven shaft using a standard 1800 rpm motor. A standard 4 to 1 *Texrope* drive will do it. And the savings over a 450 rpm cage motor, direct connected are:
   - 600 pounds weight (in 15 hp size).
   - About $200 in cost.
   - About 8% increase in efficiency.
2. Use *Vari-Pitch* sheaves on a *Texrope* drive and provide smooth, stepless speed adjustment. There's no need for a high cost special motor or electric control to provide up to 2 to 1 speed range.

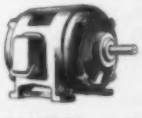
For help on your drive problem, whatever it may be, call your nearby Allis-Chalmers distributor or district office, or write Allis-Chalmers, Milwaukee 1, Wis.

A-3734

Texrope and *Vari-Pitch* are Allis-Chalmers trademarks.

Sold . . .
Applied . . .
Serviced . . .

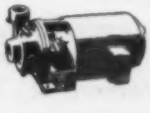
by Allis-Chalmers Authorized Distributors, Certified Service Shops and Sales Offices throughout the country.



MOTORS — ½ to 25,000 hp and up. All types

CONTROL — Manual, magnetic and combination starters; push button stations and components for complete control systems.





PUMPS — Integral motor and coupled types from ¾ in. to 72 in. discharge and up.

ALLIS-CHALMERS



MOTOR STARTERS

THERE IS AN ARROW-HART MOTOR STARTER JUST RIGHT FOR THE JOB . . . IN A COMPLETE RANGE OF SIZES.

Arrow-Hart Type "RA" Starters and Contactors are available in sizes 0-1-2-3-4 with or without NEMA housings to suit every application for local, remote control, or selector switch types.

ADVANCED DESIGN FOR OUTSTANDING PERFORMANCE

The exclusive Right Angle Balanced Mechanism means just 1/2 the space and weight of conventional starters PLUS superior performance—improved protection—years longer on the job.

STRAIGHT-THRU WIRING

Means faster, easier, lower cost installation and maintenance. Completely eliminates costly, outmoded "scrambled wiring." Direct routing is safer—makes circuit identification easy and positive.

EXPLO-SAFE CONTROLS

Here—for the first time—is a complete line of compact, light weight starters to provide superior performance and protection for all hazardous and exposed locations. Available in NEMA Type V, VII and IX explosion-proof and NEMA Type IV weatherproof housings.

"RAS" AND "RAR" CONTROLS

Type "RAS" Multi-Speed and Type "RAR" Reversing Starters are available in a complete range of sizes and housing types to serve your needs.

AND AUXILIARY EQUIPMENT—PUSH BUTTON STATIONS MIDGET RELAYS • MANUAL STARTERS • LOAD LIMIT SWITCHES



Call **ARROW-HART**

BRANCH WAREHOUSES FOR SERVICE

CITY	ADDRESS	PHONE
Boston 15, Massachusetts	1032 Commonwealth Ave.	Beacon 2-8850
Charlotte, North Carolina	813 West Trade Street	6-4766
Chicago 6, Illinois	551 West Monroe Street	State 2-4727
Cincinnati 2, Ohio	347 West Fourth Street	Garfield 6710
Cleveland 13, Ohio	2000 West 14th Street	Cherry 1-3911
Dallas 1, Texas	3200 Main Street	Sterling 3254
Detroit 1, Michigan	3126 Cass Avenue	Temple 3-0751
Indianapolis, Indiana	3604 West 16th Street	Franklin 6251
Los Angeles 13, California	405 East 3rd Street	Michigan 8048
New York 16, N. Y.	306 East 39th Street	Murray Hill 4-0767
Philadelphia 4, Pennsylvania	3201 Arch Street	Evergreen 6-7742
Pittsburgh 12, Pennsylvania	102 West North Avenue	Cedar 1-7416
San Francisco 3, California	1345 Howard Street	Market 1-2112
Syracuse 2, New York	201 East Jefferson Street	2-3645

THE ARROW-HART & HEGEMAN ELECTRIC CO.

INDUSTRIAL CONTROL DIVISION

Hawthorn St., Hartford 6, Conn.—Phone 5-1144

FAST NEW PRESIDENT OF FORT WORTH P.A. ASSOCIATION

New officers for 1952-3 were chosen at a recent meeting of the Fort Worth Purchasing Agents Association, held in the Worth Hotel. The new officials are: president, Richard Fast, Stanoline Oil and Gas Company; first vice-president, W. J. Dean, General Industrial Supply Corp.; second vice-president, C. A. Blanchard, Rowan Drilling Company; secretary-treasurer, S. J. Johnston, Acme Brick Company; national director, J. D. Lively, Gulf Oil Corporation; directors, J. A. Randolph, Service Engineers, Inc., and R. H. Sturges, Mid-Continent Supply Company.

Subject at the May 20 meeting was, "Your Fort Worth Purchasing Agents Association — Its History, Functions, Purpose and Meaning." Charles Mitchell, Axtell Company, spoke on the association's history, and Walter L. Bell, Tarrant County, on its functions. Discussion of the association's purpose and meaning included a brief word from charter members of the local and all past presidents who are still active members.

HELEN HOFFMAN HEADS CHICAGO WOMEN'S DIVISION

Miss Helen D. Hoffman, manager, promotion and purchasing departments of the Chicago Motor Club, has been elected president of the Women's Division of the Purchasing Agents Association of Chicago. The following new officers were elected to serve with her during the 1952-53 season: Miss Florence M. Hayes, purchasing agent, Chicago Tool and Engineering Company, vice-president; Miss Catherine A. Keane, purchasing agent, T. F. Washburn Company, secretary; Miss Robbye McWhorter, purchasing agent, Permoflux Corporation, treasurer.

HYPNOTIST GUEST SPEAKER AT WASHINGTON MEETING

The Purchasing Agents Association of Washington held its last meeting before summer adjournment on June 17 at the Olympic Hotel. Albert W. Cutter, who had just received his M.D. degree from the University of Washington, was the principal speaker. Dr. Cutter spoke on hypnosis and its uses.

The annual association picnic was held on July 19.

ROCHESTER BUY-SELL PICNIC

The annual Buy-Sell Picnic of the Purchasing Agents Association of Rochester was held on Wednesday, June 18 at the Wishing Well. A full program of entertainment was provided for members and their salesmen guests.

MONTREAL ASSN. GOLF MEET

The annual summer golf tournament of the Purchasing Agents Association of Montreal was held on Tuesday, June 10, at Laurentian Lodge Club, Shawbridge.

(*Please turn to page* 218)



Take it, with our compliments...

this new engineering data book on thermocouples

You need this up-to-the-minute 56-page edition of Bristol's famous book if you're involved with thermocouples and pyrometers of any kind. It's free for the asking. Here's what you get in its three, fact-packed sections . . .

1. You get a User's Manual...filled with data you'll constantly refer to for the right thermocouple and protection tube for every purpose. Included are tables, charts, etc., on Factors Affecting Thermocouple Life, Corrosion and Poisoning, Thermocouple Reproducibility, Proper Location and Installation of Thermocouples, etc.

2. You get a Buyer's Guide...a complete catalog listing assembled thermocouples and replacement parts for all standard installations (special uses, too) . . . with full specifications, prices, illustrations so handily indexed ordering's a cinch.

3. You get Thermocouple Calibration Data ...complete, easy-to-use tables of calibration data for all commonly used base-metal and rare-metal thermocouples.

Make sure you get your free copy now!

BRISTOL

The dependable Guidepost of Industry

AUTOMATIC CONTROLLING, RECORDING AND TELEMETERING INSTRUMENTS

THE BRISTOL COMPANY
124 Bristol Road
Waterbury 20, Conn.

Please send free book on Bristol Thermocouple and Pyrometer Accessories.

NAME_____ TITLE_____

COMPANY_____

ADDRESS_____

CITY_____ ZONE_____ STATE_____

LENOX
QUALITY TOOLS
High Speed
HACK SAWS
BAND SAWS
GROUND FLAT STOCK
HOLE SAWS
QUALITY LENOX TOOLS
"The Tools in the Plaid Box"
AMERICAN SAW & MFG. COMPANY
SPRINGFIELD, MASS.

DAHLBERG TO HEAD TRICITY ASSOCIATION IN 1952-53

Ken Dahlberg, French & Hecht Company, was elected president at the recent annual past presidents' night meeting of the Tricity Purchasing Agents Association, held in the Davenport Club, Davenport, Iowa. Nine past presidents attended the affair.

Other new officers, who took office after the June meeting, are: Leo Keller, Voss Bros. Mfg. Co., national directors; Manley Hult, Riverside Foundry, first vice-president; Jim McAleer, Deere & Company, second vice-president and secretary-treasurer; Bill Rodgers, Herman Nelson Company, third vice-president.

The Annual Play Day meeting of the association was held at the Clinton Country Club, Clinton, Iowa, on June 9. It was an open meeting and all purchasing agents and their friends were invited.

The association reported a very successful year, with the highest number of members in the district. A well-attended course in purchasing was recently completed in conjunction with the Moline Community College.

THORNBURG ELECTED PRESIDENT OF TRI-STATE ASSOCIATION

George M. Thornburg, National Mattress Company, Huntington, W. Va., was elected president of the Tri-State Purchasing Agents Association at a meeting held recently at Athens, Ohio. E. R. Roush, Acme Limestone Company, Ft. Spring, W. Va. was named national director.

Other new officers, all of whom were inducted into office at the June 18 meeting, are: C. G. Roll, Armco Steel Corp., Ashland, Ky., first vice-president; R. J. Thompson, Owens, Libbey-Owens, Gas Division, Charleston, W. Va., second vice-president; A. A. Meyer, 329 Eighth Avenue, Huntington, W. Va., secretary-treasurer. Two-year directors are: T. H. Evans, Jr., The McBee Company, Athens, O.; Lynn H. Powers, Lando Coal Corp., Huntington, W. Va.; and B. G. Ferguson, Electro Metallurgical Division, Marietta, O. Hold-over directors are: Graves Trumbo, McJunkin Corporation, Charleston, W. Va.; Paul Meehan, Jr., Meehan Steel Products Co., Ironton, O.; and J. W. Sturgeon, Capital City Supply Company, Charleston, W. Va.

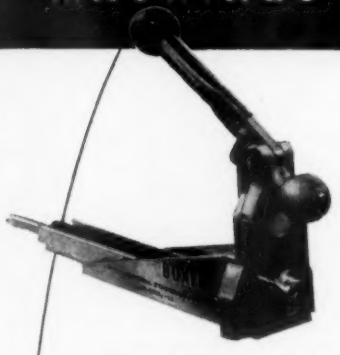
CENTRAL MICHIGAN ASSN. INSTALLS NEW OFFICERS

The annual golf tournament of the Central Michigan Purchasing Agents Association was held on Tuesday, June 17, at the Duck Lake Country Club.

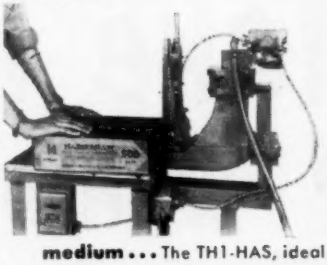
At a regular business meeting held that evening, the following new officers were installed for 1952-53: Leonard Butters, president; Richard Carter, first vice-president; Edmond Hansen, second vice-president; Boyd Rainey, treasurer; Ron Weger, secretary.

(*Please turn to page 222*)

a complete line of CARTON STAPLING MACHINES



small . . . The Boxer, ideal for portable use, small volume, and odd-job closures.



medium . . . The TH1-HAS, ideal for overlap cartons and end closures on long narrow boxes, either overlap or slotted.



large . . . The C2E, ideal for center-slotted cartons . . . closes tops and bottoms simultaneously . . . has paid for itself in 60 days!

30 models . . . for closing filled corrugated or fibre cartons . . . from small hand operated units to large multi-head automatic production models . . . there's an International Retractable Anvil Stapling Machine built just for your job! Close variable size cartons on the same machine . . . get pilfer-proof packaging . . . at savings up to 50% in shipping costs.

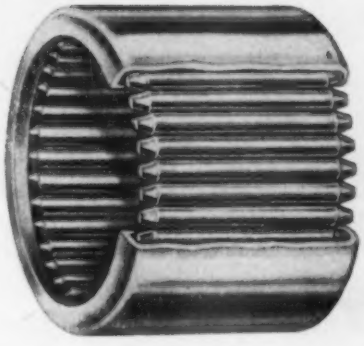
INTERNATIONAL STAPLE & MACHINE COMPANY
804 East Herrin Street
Herrin, Illinois



when high capacity pays off...

Torrington Needle Bearings are designed to handle heavy loads. A full complement of small diameter rollers distributes the load evenly over a large area. Thus—for a given O.D.—a Needle Bearing has greater rated radial load capacity than any other type of anti-friction bearing.

Other Needle Bearing advantages—compact size, light weight, ease of installation and maintenance—pay off, too. So let our engineers help you—as they have many others—take full advantage of Torrington Needle Bearings in *your* product.



THE TORRINGTON COMPANY
Torrington, Conn. South Bend 21, Ind.
District Offices and Distributors in Principal Cities of United States and Canada

TORRINGTON NEEDLE BEARINGS

Needle • Spherical Roller • Tapered Roller • Straight Roller • Ball • Needle Rollers



Preferred power on portable fire fighting pumps and floodlight electric plants — the world's most widely used single-cylinder gasoline engines on machines, tools, appliances used by municipalities, industry, construction, railroads, oil fields, and on equipment for farm and home.

The product of more than 32 years of air-cooled power experience — Briggs & Stratton single-cylinder, 4-cycle, air-cooled gasoline engines are preferred for every application demanding the most in dependable performance. Briggs & Stratton Corporation, Milwaukee 1, Wisconsin, U.S.A.

In the automotive field Briggs & Stratton is the recognized leader and world's largest producer of locks, keys and related equipment.

UTAH ASSOCIATION ELECTS NEW OFFICERS FOR 1952-53

Gordon Burt Affleck, purchasing agent for Latter Day Saints Church, has been elected president of the Purchasing Agents Association of Utah. Other officers chosen at a recent meeting include: George R. Ten Eyck, Columbia-Geneva Division, U. S. Steel Corporation, vice-president; Kenneth Yeates, Phillips Petroleum Company, secretary; and Eric A. Johnson, Utah State Agricultural College, treasurer. M. Vern Woodhead, Independent Coal and Coke Company is new national director, succeeding John P. Hopkinson.

Regular meeting of the association was held on June 12 at Provo, the new steel city. Reports were heard from the ten members who attended the N.A.P.A. Convention at Atlantic City.

TWIN CITY ASSN. PARTY

The annual summer party of the Twin City Association of Purchasing Agents was held on Friday, June 27, at Le Sueur, Minn. Members visited the Green Giant Company's Cannery at Glencoe, Minn., before the party began at the Le Sueur Country Club.

CAROLINAS-VIRGINIA ASSN. HOLDS SUMMER MEETING

The summer meeting of the Carolinas-Virginia Purchasing Agents Association was held at Grove Park Inn, Asheville, N.C., on June 13 and 14.

The meeting opened with a visit Friday afternoon, June 13, to the Champion Paper and Fibre Company, Canton, N.C. The visit was arranged by the educational committee.

First official session of the meeting was a closed forum panel the same afternoon, with J. A. Long presiding. Members of the panel and their topics were: W. H. Cosby, fuel; Mrs. Elizabeth Brown, furniture and lumber; R. L. Stafford, governmental; J. H. Hood, mill supplies; W. R. Collins, paper and containers; Paisley Boney, purchasing procedures; Fletcher Jordan Jr., textiles; H. E. Wilson, utilities.

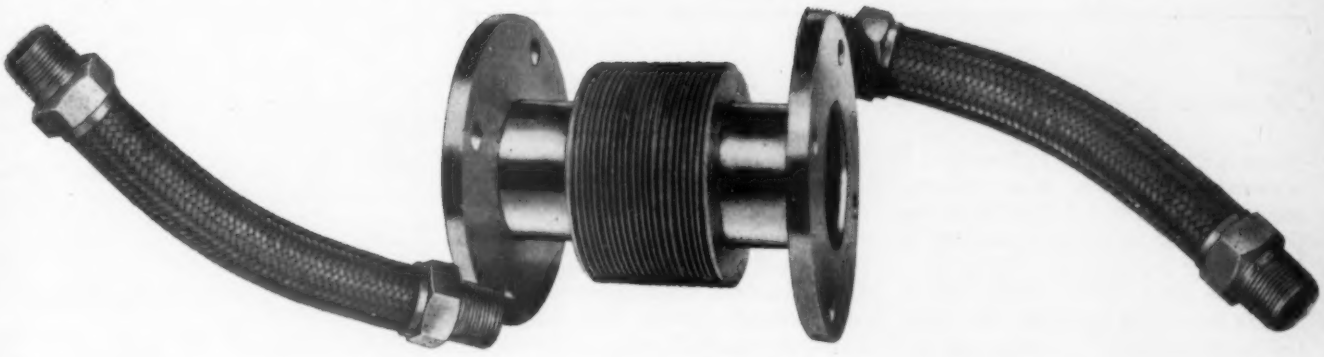
H. F. Jones, past president of the National Association of Purchasing Agents, was guest speaker at the banquet on Friday evening. He was introduced by W. E. Prescott. Mr. Jones, assistant purchasing agent for atomic construction, E. I. DuPont de Nemours & Co., Inc., spoke on "The Purchasing Job at the Savannah River Plant."

A closed business meeting was the first session Saturady morning. The open meeting at 10:30 a.m. featured an address by R. C. Haberkern, R. J. Reynolds Tobacco Company, on "What Purchasing Expects from Management." George Renard, executive secretary-treasurer of N.A.P.A., presented his traditional "From One P.A. to Another."

A program of golf and other sports was presented Saturady afternnoon.

(*Please turn to page* 224)

Are these 3 new to you?



It would pay you to know all about them

Don't let their modest appearance fool you; these are puzzle-busters and job-simplifiers extraordinary.

This is **TITEFLEX®**—*the* All-Metal Flexible Hose with 1001 industrial applications. It withstands temperatures, pressures, vacuum, vibration and the corrosive action of a host of liquids and gases. How can you use it? To connect moving parts of machinery. To connect misaligned parts. To absorb vibration, contraction, expansion and pulsation. To "transmit" vacuums or convey high-frequency currents. To shield wire and cables. And to handle difficult materials—from acid and ammonia to sea water or steam.

Here's **UNIFLEX**—the new *Helically-corrugated* Seamless Flexible Tube. It's tough, corrosion-resistant, leak-proof. And its *helical* construction gives it greater flexibility and longer life in applications too critical for ordinary concentric tubing. UNIFLEX is for you—if you're concerned with hydraulic lines, oil burners, refrigeration machinery, air conditioning equipment, pumps, compressors, diesels or machine tools. For leakless service, UNIFLEX fittings have metal-to-metal seat. Seal is produced through spring washer effect of hose on fitting body.

TITEFLEX BELLOWS are the *efficient* means of absorbing lineal movement in many types of equipment. Their welded, convoluted-diaphragm construction lets them do this without weakening the lines in which they are inserted and without reducing the flow rates of gases or liquids being conveyed. You can use TITEFLEX BELLOWS to seal high pressure valves and shafts, accommodate lineal contraction and expansion or high frequency vibration, and to handle gases and corrosive liquids under high temperature conditions. Special designs are available and complete bellows assemblies can be furnished with any required types of fittings.

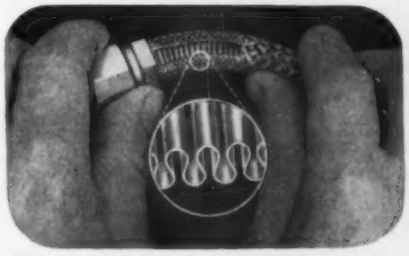


Get the facts without obligation

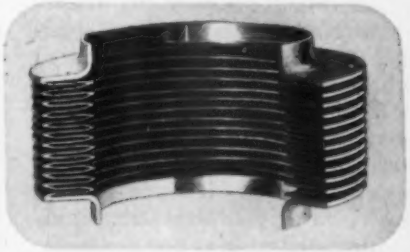
TITEFLEX literature contains full descriptions, technical data and suggestions for use. And Titeflex Designers and Engineers have a thorough knowledge of these products' behavior under exacting service conditions. Check the products that interest you and mail the coupon today. We'll be glad to help you with any specific problem.



Sectional view shows rugged, flexible, seamed construction of Titeflex.



Note the helically-corrugated, seamless wall structure of Uniflex.



Cross-section shows the welded, convoluted-diaphragm construction of Titeflex Bellows.

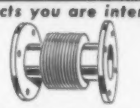
Let Our Family of Products Help Yours

Titeflex

✓ *Check products you are interested in.*



☐ SEAMED AND SEAMLESS METAL HOSE



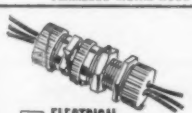
☐ PRECISION BELLOWS



☐ IGNITION HARNESS



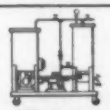
☐ IGNITION SHIELDING



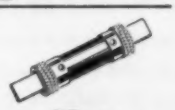
☐ ELECTRICAL CONNECTORS



☐ RIGID AND FLEXIBLE WAVE GUIDES



☐ FILTERS



☐ FUSES

TITEFLEX, INC.
513 Frelinghuysen Ave.
Newark 5, N.J.

MAIL COUPON TODAY

Please send me without cost information about the products checked at the left.

NAME_____

TITLE_____

FIRM_____

ADDRESS_____

CITY_____ ZONE____ STATE_____

BUSINESS IN MOTION

To our Colleagues in American Business . . .

There is a saying that is as famous as it is erroneous. It is the one about the better mousetrap. The fact is that if anyone develops a new, improved mousetrap he has to beat his own path to people's homes. In other words, he has to sell if he is to prosper. In selling the more effective trap, it should be realized, he has rendered a service not only to himself and to his employees, but also to the buyer.

Revere thinks this is a good time to point out that salesmen render service to customers, and to give some thought to the functions and values of salesmanship. If by salesmanship we mean everything that influences sales, then of course we must include advertising and many other factors. However, except in the case of a product sold by mail, all the elements in salesmanship lead up to a single point, the contact between a salesman and a customer or prospect. During that interview, the salesman takes advantage of all that has been done previously to help him.



Why do people buy from one man rather than another, from one company instead of another? Revere has discovered through long experience and observation that loyal customers are created and held when the salesman and those back of him take a sincere and informed interest in the buyer's welfare. In Revere this may mean recommending and selling a less expensive alloy if it will serve as well as a more expensive one. Or it may involve suggesting use of an extruded shape, costing more per pound than plain bar, but saving important sums by reducing costly machining operations. And so on.

It is easy to recognize that such activities come under the head of "service." They are also a part of salesmanship, which renders other services as well. It is a service, we feel, to tell people about products, what they are, what they will do, what benefits they offer, how much they cost, how they should be specified, when they can be delivered. It is also a service to offer solutions to problems. In rendering such services, a salesman needs much more than a price list. He must have a firm background, derived from education, training and experience in his industry, and in addition must be able to discuss intelligently and constructively the problems of the people he serves. A sales force thus equipped, such as Revere has, can give directly or through the company's engineering service a kind of collaboration that is valuable but is not billed. If buyers had to dig out all the facts they need without the assistance of salesmen, American industry and the general public as well would be greatly hampered in seeking the best values obtainable.

The salesman is part of a great team that has given this country more prosperity and standards of living higher than ever enjoyed anywhere else in the world. Other factors in achieving this amazing result include inventiveness, better design and engineering, faster and more economical production, the skills of management and factory employees, the editorial and advertising contributions of the thousands of helpful American publications. While we give credit to all these elements, let us not forget that productive capacity is increasing constantly, and that to move larger volumes of goods more capable salesmen and more effective salesmanship will be necessary. In the future, we believe the salesman who serves as well as sells will become more and more important, for only through sales can factories and employees be kept busy. Whenever and whatever you buy, remember that you can always find salesmen who, like those who serve the Revere customers, consider the best interests of their clients as carefully as their own. So we suggest you take your suppliers' salesmen into your confidence, and permit them to serve you fully.

REVERE COPPER AND BRASS INCORPORATED

Founded by Paul Revere in 1801

Executive Offices: 230 Park Avenue, New York 17, N. Y.

SEE REVERE'S "MEET THE PRESS" ON NBC TELEVISION EVERY SUNDAY

CENTRAL IOWA ASSOCIATION TOURS MEAT PACKING PLANT

The Central Iowa Association of Purchasing Agents met on May 13 at the Rath Packing Company, Waterloo, Iowa. In attendance were 24 members and four guests.

Following a luncheon as guests of the Rath Packing Company, the group made a complete tour of the Rath Plant. The processing of the meat at this modern plant was most interesting and informative and made a deep impression on the entire group.

After the plant tour a regular business meeting was conducted with president J. M. Casey as presiding officer.

The June meeting of the association was held at the Des Moines Golf and Country Club on June 10 1592. This meeting was the annual "Ladies Night" and drew a large turn-out of members and their wives. Our guest speaker was Author H. Brayton, prominent manager of the Des Moines Convention Bureau.

SYRACUSE ASSN. VISITS PLANT

The Purchasing Agents Association of Syracuse and Central New York held a plant visit at the Oberdorfer Foundries of the Onondaga Pottery Company, Syracuse on Tuesday, June 17. Members played golf at the Drumlins Golf & Country Club in the afternoon. A dinner meeting was held at the club that evening.

JUDGE KESSENGER GUEST AT ROCHESTER MEETING

A regular meeting of the Purchasing Agents Association of Rochester was held on May 1, at the Rochester Club.

Speaker for the evening was Hon. H. C. Kessenger, presently serving his seventh year as Municipal Judge of Ridgewood, N. J. His topic was "What Road Are We On?"

The question of incorporation of the Rochester Association was presented to the membership and received an affirmative vote by a wide majority. Incorporation will be started immediately.

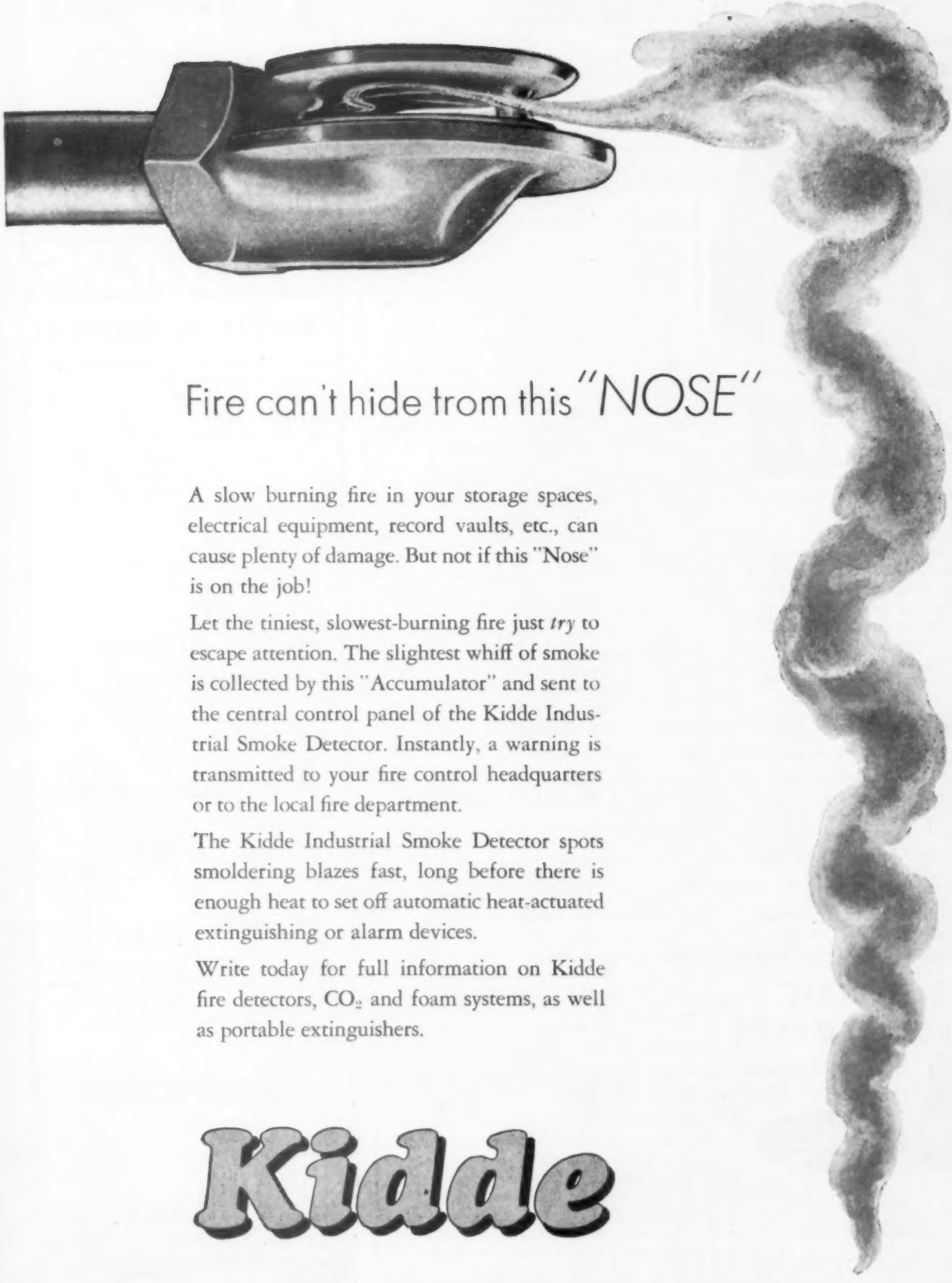
The presiding officer at this "Guest Night" meeting was the newly elected president, Walter Almond. The evening was completed with dancing.

LOUISVILLE ASSN. FOUNDER DIES AT AGE 70

William M. Kerrick, purchasing agent and director for the Mengel Company, Louisville, Ky., until his retirement in 1947, died recently at age 70.

Mr. Kerrick, who had been with Mengel for 48 years, was the founder of the Purchasing Agents Association of Louisville.

CLASSIFIED SECTION
See Page 316



Fire can't hide from this "NOSE"

A slow burning fire in your storage spaces, electrical equipment, record vaults, etc., can cause plenty of damage. But not if this "Nose" is on the job!

Let the tiniest, slowest-burning fire just *try* to escape attention. The slightest whiff of smoke is collected by this "Accumulator" and sent to the central control panel of the Kidde Industrial Smoke Detector. Instantly, a warning is transmitted to your fire control headquarters or to the local fire department.

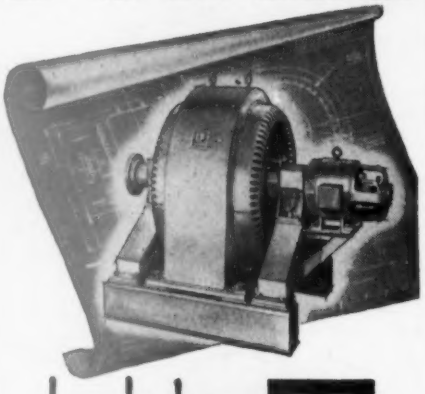
The Kidde Industrial Smoke Detector spots smoldering blazes fast, long before there is enough heat to set off automatic heat-actuated extinguishing or alarm devices.

Write today for full information on Kidde fire detectors, CO_2 and foam systems, as well as portable extinguishers.

Kidde

Walter Kidde & Company, Inc., 747 Main St., Belleville 9, N. J.
Walter Kidde & Company of Canada, Ltd., Montreal, P. Q.

for
custom-engineered
POWER



look to... EP

Since 1909, the job of The Electric Products Company has been to create and develop special electrical rotating equipment . . . motors and generators to do existing jobs better or to reach into new fields to do jobs that couldn't be done before. The natural "by-product" of our more than 40 years of specialization is that you get equipment designed and built to the exact requirements of your application . . . equipment that has greater dependability, longer life and that requires less maintenance.

Send in the coupon below for detailed information about our Custom-Engineered synchronous motors and generators . . . d-c motors and generators . . . induction motors . . . battery chargers . . . frequency changers.

A nation-wide sales engineering and service organization stands ready to meet all User requirements.

THE ELECTRIC
PRODUCTS COMPANY



1716 CLARKSTONE ROAD
CLEVELAND 12, OHIO

Attach coupon to your letterhead for your copy of Bulletin 2-200.

NAME_____
TITLE_____
COMPANY_____
STREET_____
CITY_____ ZONE____ STATE_____
X-74

63% OF SUPPLIERS ARE "SMALL BUSINESS" CONCERNS

In a recent interview, John J. Summersby, Vice President in Charge of Purchasing, Worthington Corporation, Harrison, N. J., cited "small business" as an important source for supplying materials to this capital goods manufacturer. A recent survey of the Corporation's suppliers indicates that sixty-three per cent of them are "small business" concerns having less than 500 employees.

In addition, Mr. Summersby revealed that many of the so-called large manufacturers supplying Worthington, subcontract substantial portions of orders to small manufacturers, which would greatly increase the percentage of the corporation's business in which "small business" shares. As an example, Mr. Summersby pointed out that so far this year there has been an increase of thirty-one per cent in sub-contracting by his company as compared with last year.

"As do most concerns of our size," Mr. Summersby stated, "we depend on thousands of suppliers, large and small. Small companies are important to us — in fact, indispensable—in supplying thousands of parts and pieces which in many instances they are better able to handle and service more quickly than are some of the larger concerns. In every instance the small businesses have earned the orders which we have placed with them by quality, price, or service or a combination of these factors.

"My observation is that the small manufacturers of this country are not asking or expecting any favored consideration simply because of size. They compete for business as does every manufacturing concern regardless of size."

REVISED AMERICAN STANDARD B36.19 STAINLESS STEEL PIPE

Dimensions for Schedule 58 stainless steel pipe are now included in the newly revised edition of American Standard B36.19, Stainless Steel Pipe, offering opportunity for greater economy in the cost and use of this critical material.

The three schedules of pipe thickness covered in the original edition of the Standard in 1949, Schedules 10S, 40S and 80S for sizes ⅛ in. through 12 in. are retained in the revised edition. Schedules 40S and 80S respectively have the same thickness as Standard Wall and Extra Strong Wall wrought steel pipe, covered by American Standard B36.10-1930 (now B36.10-1950). Schedule 10S pipe, the first new schedule of thickness to be standardized in over 15 years, is approximately one-half the weight of Schedule 40S. The new Schedule 5S pipe is approximately one-third lighter than Schedule 10.

Pressing needs of the chemical industry for stainless steel pipe lighter in weight than that covered by Schedule 10S occasioned an informal conference of chemical industry representatives and producers of stainless steel welding fittings in New York in September, 1948.

(*Please turn to page* 228)

REMEMBER!



For the BEST... use
RHOADS
INDUSTRIAL LEATHERS

When it comes to specifying and purchasing industrial leathers your job can be made easier! Call in a Rhoads sales engineer, explain your problem to him, and he'll recommend the correct industrial leather for your particular application. Only in this manner do you get "custom-engineered" Industrial Leathers. They last longer, cost you less for maintenance . . . because they're individually made to suit your particular application. Without obligation, why don't you call in a Rhoads sales engineer. Do it today.

Tannate®
FLAT LEATHER BELTING

Combines elasticity, full-friction pulley grip, operating stamina for longer service. Is *all-ways* "custom-engineered" to specifications.

Tannate®
LEATHER PACKINGS

Tannate Packings resist abrasion and wear, will not cold flow, score or abrade. Recommended for a wide range of temperatures, pressures, and mediums.

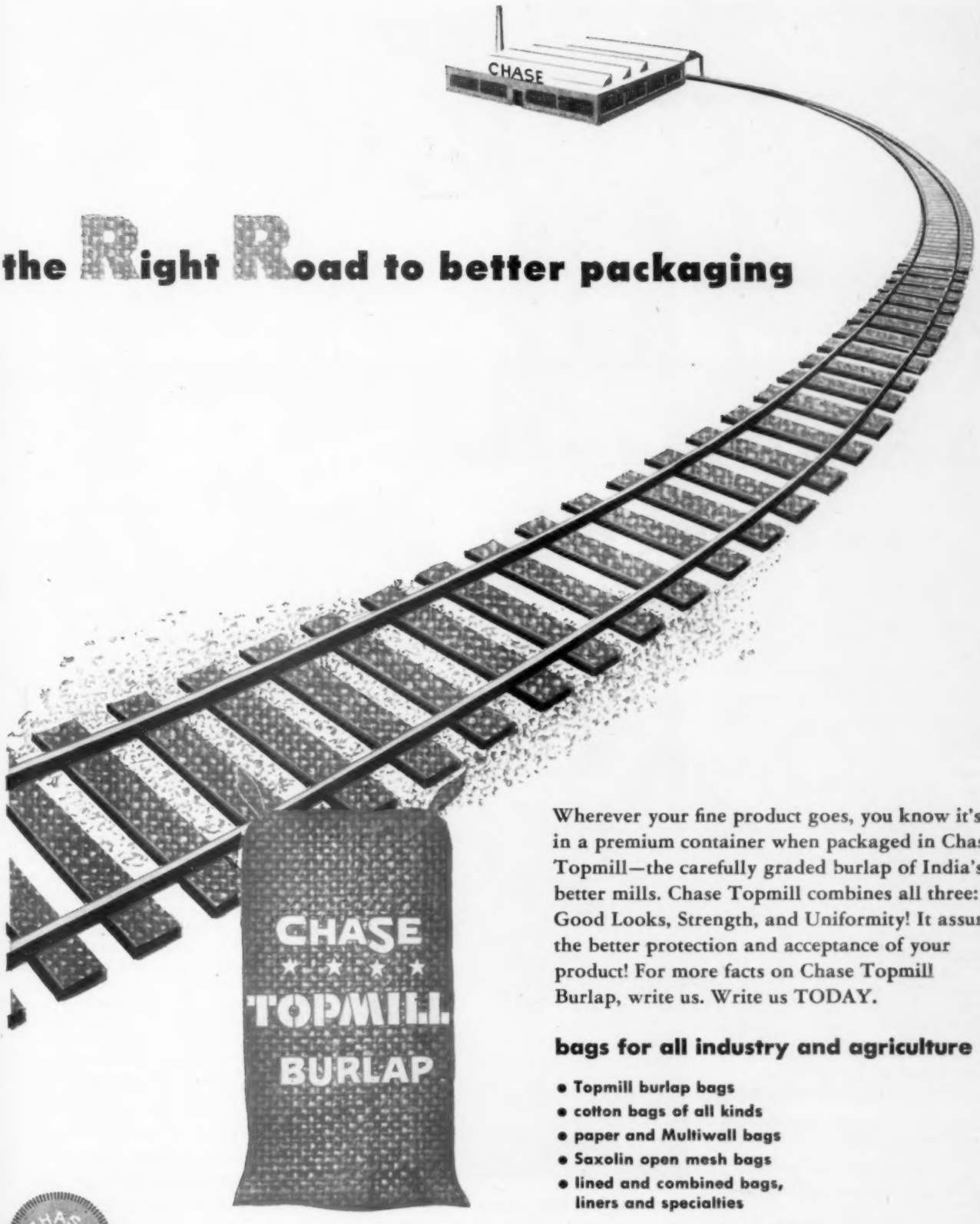
Tannate®
UNI-PULL DRIVE

Tannate UNI-PULL Drive automatically maintains constant belt tension for maximum delivery of power. Combines Tannate Belting for smoother operation, less maintenance.

CALL YOUR RHOADS SALES ENGINEER OR WRITE
J. E. RHOADS & SONS, 35 N. 6th Street, Phila. 6, Pa.

250 YEARS
PRODUCING FINE LEATHERS

J. E. RHOADS & SONS
PHILADELPHIA • NEW YORK
CHICAGO • ATLANTA



the Right Road to better packaging

Wherever your fine product goes, you know it's in a premium container when packaged in Chase Topmill—the carefully graded burlap of India's better mills. Chase Topmill combines all three: Good Looks, Strength, and Uniformity! It assures the better protection and acceptance of your product! For more facts on Chase Topmill Burlap, write us. Write us TODAY.

bags for all industry and agriculture

- **Topmill burlap bags**
- **cotton bags of all kinds**
- **paper and Multiwall bags**
- **Saxolin open mesh bags**
- **lined and combined bags, liners and specialties**

CHASE SINCE 1847 BAGS

for Better Bags...Better Buy Chase

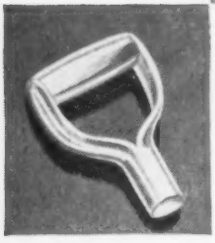
CHASE BAG CO. GENERAL SALES OFFICES: 309 WEST JACKSON BLVD., CHICAGO 6, ILL.

BOISE • DALLAS • TOLEDO • DENVER • DETROIT • MEMPHIS • BUFFALO • ST. LOUIS • NEW YORK • CLEVELAND • MILWAUKEE
PITTSBURGH • KANSAS CITY • LOS ANGELES • MINNEAPOLIS • GOSHEN, IND. • PHILADELPHIA • NEW ORLEANS • ORLANDO, FLA. • SALT LAKE CITY
OKLAHOMA CITY • PORTLAND, ORE. • REIDSVILLE N. C. • HARLINGEN, TEXAS • CHAGRIN FALLS, O. • WORCESTER, MASS. • CROSSETT, ARK. • SAN FRANCISCO

From finishing hardware . . .



to sanding handles



Armour Backstand Belts do the job right

For the thousands of jobs where backstand belts can save you time, for the thousands of jobs other coated abrasives do so well, Armour has the answer – there's an Armour coated abrasive to do *your* job right.

Production Tripled!

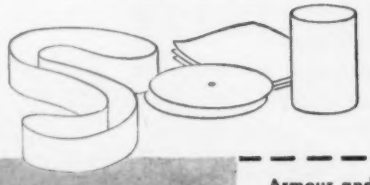
The Coan Mfg. Co. of Madison, Wisconsin, decided to use backstand belts instead of set-up wheels in sanding bevels on steel guides for vending machines. The switch *increased production from ten to thirty guides per hour!* These amazing results proved to them that Armour backstand belts are more efficient, more economical than set-up wheels.

Belts are only one of the many forms of coated abrasives available to you from Armour. There are more than 30,000 different varieties in grit size, backing, etc. We have sheets, rolls, discs, tubes—and specialty sizes to meet your specifications.

Let your industrial supply distributor tell you about this complete Armour line. Ask for your free copy of the booklet, "Facts about Backstand Belt Grinding and Polishing"— or send the coupon.



We recommend buying through your industrial distributor



MAIL THIS COUPON TODAY

ARMOUR *Coated Abrasives*

Armour and Company • North Benton Road • Alliance, O.

Please send me the free booklet, "Facts about Backstand Belt Grinding and Polishing."

Name _____

Title _____

Firm _____

Address _____

City _____ *Zone* ____ *State* _____

(*Continued from page 222*)

It was decided that dimensions for the tentatively designated Schedule 5S pipe would be determined by the practical difficulties of field welding the smaller sizes, and resistance to collapse under vacuum of the larger sizes.

Copies of the revised American Standard B36.19, Stainless Steel Pipe, are available at American Standards Association, 70 East 45 Street, New York 17, N. Y.

PACKAGERS TOLD COST CAN BE REDUCED BY 20 PER CENT

Makers of packaged products from toothpaste to television sets can save at least 20 per cent in the cost of bringing goods to market through the use of modern materials handling equipment.

This was the prospect offered packaging experts and industrial leaders attending the 21st Annual National Packaging Exposition at Atlantic City by Elmer F. Twyman, vice president of The Yale & Towne Manufacturing Company. Mr. Twyman heads the company's Philadelphia Division, manufacturers of Yale materials handling equipment.

"The estimate of possible savings," according to Mr. Twyman, "is based on Yale & Towne's studies of handling operations and costs in a wide variety of industries, including food, bottling, textile, and paper."

By way of illustration, Mr. Twyman pointed out that in one phase of the handling operations in the bottling industry, "an 80 per cent reduction in handling costs was accomplished through the application of modern materials handling techniques."

He continued that "a marriage of modern packaging and modern materials handling techniques is bringing about substantial cost reductions in distribution which can be passed on to consumers."

"The modern package has been developed into an effective sales and merchandising tool," Mr. Twyman said, "but until the packagers of products learn to take full advantage of modern materials handling techniques, the full economic value of the modern package cannot be realized."

A prominent display and demonstration of various types of Yale materials handling equipment will be shown visitors to the Exposition, in line with Mr. Twyman's thesis.

"STYLE GUIDE" DESIGNS FOR FOLDING CARTONS

A new 28-page "Style Guide" detailing construction designs for folding cartons has been issued by Robert Gair Company, Inc., New York, manufacturers of folding cartons, paperboard and shipping containers. These designs are adaptable to almost any shape or type of product.

Information is included on use of machine-filled and machine-formed cartons, also a helpful check list of points to be considered in planning packaging.

Free copy of this useful new booklet can be secured upon request.

4 × 30¢ = $1.00

. . . when you order by tank truck



YOU CAN SAVE 20 to 30% in the purchase of small lots of chemicals. Here's how it works:

Shell Chemical uses a fleet of compartmented tank trucks, each able to carry several chemicals. A four-compartment tank truck, for instance, can carry 500, 1000, 1000 and 1500 gallons of four different products—total: 4000 gallons.

And . . . these four chemicals, delivered at one time, *cost less* than they do at drum delivery prices. What's more, compartmented tank-truck service is efficient, prompt . . . there's less capital tied up in inventory and tankage . . . handling losses within your plant are minimized by the surer, safer bulk system.

Compartmented tank trucks are another example of Shell's search for better Service . . . for users of industrial chemicals.

SHELL CHEMICAL CORPORATION

CHEMICAL PARTNER OF INDUSTRY AND AGRICULTURE

EASTERN DIVISION:
500 Fifth Avenue, New York 18

WESTERN DIVISION:
100 Bush Street, San Francisco 6

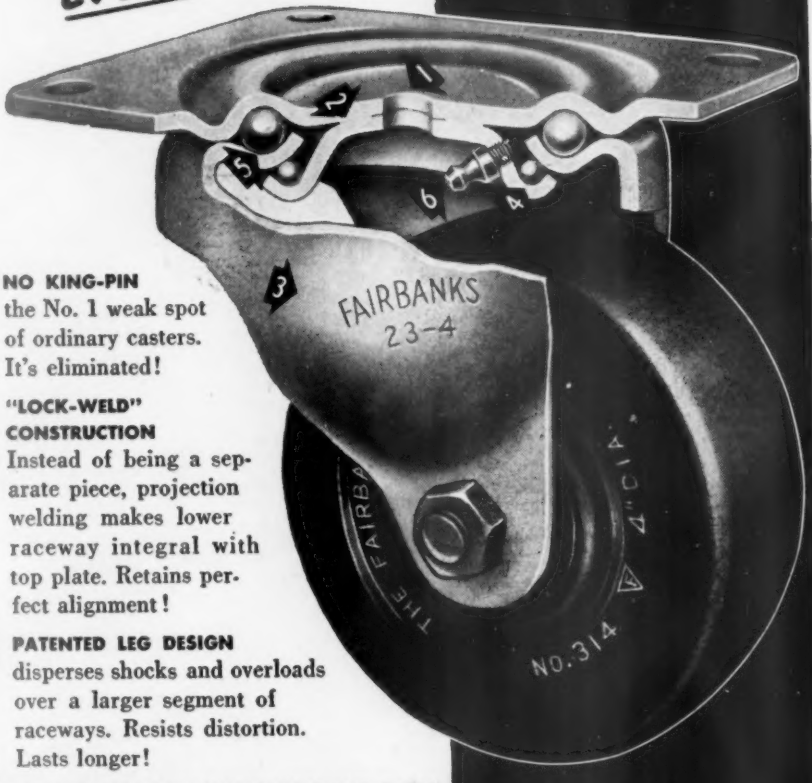
Los Angeles • Houston • St. Louis • Chicago
Cleveland • Boston • Detroit • Newark

IN CANADA
Shell Oil Company of Canada, Limited
Toronto • Montreal • Vancouver

NEW Fairbanks Series "23" Double Ball Race SWIVEL CASTER

The NEW Fairbanks Series "23" Double Ball Race Swivel Caster* line is designed for greater load carrying capacity in the medium duty field.

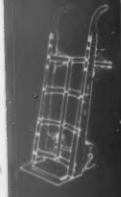
STRONGER ON EVERY POINT



1. **NO KING-PIN** the No. 1 weak spot of ordinary casters. It's eliminated!
2. **"LOCK-WELD" CONSTRUCTION** Instead of being a separate piece, projection welding makes lower raceway integral with top plate. Retains perfect alignment!
3. **PATENTED LEG DESIGN** disperses shocks and overloads over a larger segment of raceways. Resists distortion. Lasts longer!
4. **LARGER SECONDARY RACEWAY AND BALLS** provide tremendously increased swiveling efficiency and greater shock absorption of overloads. Easier working!
5. **COINED RACEWAYS** insure smoother operation through extra hardness. Improve with use!
6. **PRESSURE LUBRICATION** by Zerk Fittings reduces friction and wear!

*PATENTED

Rigid Casters, Series "33" in matching heights



THE **Fairbanks** COMPANY

393 LAFAYETTE STREET • NEW YORK 3, N. Y.

Branches: New York 3 • Pittsburgh 22 • Boston 10 • Rome, Ga.

TRUCKS • VALVES • DART & PIC UNIONS • CASTERS

CEILINGS HAVE LITTLE EFFECT ON CURRENT PRICES

Barring a few significant exceptions, ceiling prices established by the Office of Price Stabilization are exerting little influence on current prices, according to a survey of 157 manufacturers, just completed by the National Industrial Conference Board, New York.

Three out of four of these manufacturers are selling at least a part of their output below ceiling prices, with several quoting their entire line below ceilings. Major exceptions to this practice are found "principally among producers of machinery, machine tools, nonferrous metal products and steel fabricators, where ceilings still prevail."

The cross-section of corporate management surveyed is virtually unanimous in its stand that prices be decontrolled at an early date. Not until this comes about, they say, will the burdensome problem of complying with government price regulations be brought to an end.

Furthermore, these executives believe that controls, because they defy the basic law of supply and demand, are introducing rigidities into manufacturing operations that are working to the detriment of both producer and consumer. Instances are cited in which reduced profit margins have resulted in some product lines being withdrawn from the market, while in other cases the introduction of new products is being delayed. Where ceiling prices would appear to provide evidence that controls are functioning, it is frequently at the expense of greater supplies and grey market operations.

Hardships Imposed

Softness in many markets has led manufacturers to question the need and accomplishment of price controls.

While not the most serious complaint of industry, the paper work and red tape involved in price controls are by all odds the most common.

Keeping abreast of regulations, computing price ceilings, and recording and registering these prices with Washington are proving both time consuming and expensive. Principal concern is the fact that the records requested differ from normal corporate accounting procedures.

Some executives find that the time consumed is not restricted to clerical personnel since the time of supervisors is also taken up for discussion of the many problems created.

Most companies say they have had to add personnel in order to comply with regulations and the need for additional clerks has coincided with a marked shortage of that type of personnel.

Other executives point to increased costs to the consumer stemming from the "gigantic bureaucracy" needed to administer the system of controls.

Ceilings on Profits?

Because prices of some products have been frozen at unfavorable levels, some manufacturers contend that it is the intention of government to place a ceiling on profits as well as prices. In several instances, producers who had attempted

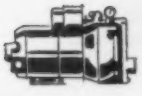
(*Please turn to page* 234)

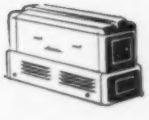
your competition may be MORE than one jump ahead if you make these products: kitchen ranges • water heaters • regulators • refrigerator units • pumps • motors











Our packaging engineers have just designed new and different containers for *each* of these products. They are lightweight and extra strong! They are *designed* to cut packing and shipping costs, to speed production! They are good looking, too! We have experience in designing better shipping containers for practically all types of products. Write us. Get the facts on this important subject.



Get this important booklet. Write today! It's free! It shows how to cut packing and shipping costs.

ALL TYPES OF ENGINEERED SHIPPING CONTAINERS

District Offices and Plants:
Cincinnati, Denville, N. J., Detroit, East St. Louis, Kansas City, Louisville, Milwaukee, Sheboygan, Winchendon, General Box Company of Mississippi, Meridian, Miss., Continental Box Company, Inc., Houston, Dallas

General BOX COMPANY
1843 Miner Street,
Des Plaines, Illinois


General Wirebound Crate


General Nailed Box


General Corrugated Box


General Cleated Corrugated Container


General All-Bound Box


Generalift Pallet and Pallet Box


General Watkins-Type Box



LONG LIFE!

Pyrene Vehicle Type Extinguishers give at least twice the service life of ordinary vaporizing liquid extinguishers!

Vibration is the big enemy of fire extinguishers mounted on trucks and buses. Vibration beats on the parts—can knock them out of kilter—make the extinguisher inoperative.

But Pyrene* has licked vibration!

Special construction features, found *only* in Pyrene, are the answer. In every 1 qt. and 1½ qt. Pyrene Vehicle Type Vaporizing Liquid Extinguisher, a special vibration dampener holds the pump mechanism firmly in place, protecting it against both vertical and horizontal vibration. And tough brass linings guard the valve housings in every spot where wear could occur.

In competitive vibrating machine tests, a Pyrene Vehicle Type Extinguisher outlasted three other major brands by more than 2 to 1... the ratio going as high as 15 to 1.

Half life is no bargain. Buy on facts... buy long-lived Pyrene!

*T.M. Reg. U.S. Pat. Off.

Pyrene
REG US PAT OFF
FIRE EXTINGUISHERS
GET IT FROM YOUR FOREMAN

PYRENE MANUFACTURING COMPANY
578 Belmont Avenue • Newark 8, N.J.
Affiliated with C-O-Two Fire Equipment Co.

(*Continued from page* 232)

to hold prices in line during 1950 felt they were being penalized for this effort by having inequities frozen into their price structure. And it is generally agreed that it is extremely difficult to adjust prices for special situations that have developed subsequent to the initial freeze.

One criticism on this score concerns allowable costs. Many instances are reported in which out-of-pocket costs are considered to the exclusion of overhead expenses.

Failure to receive adequate markups is reported to have resulted in reduced food supplies coming to market and the establishment of grey markets for certain food products. Several food producers, as well as some manufacturers of metal products, threaten to withdraw selected lines from the market unless relief, for which they have already applied, is forthcoming.

Company vs. Industry Costs

Another bone of cost contention is the substitution by OPS of industry costs for company costs when applying for relief. Executives report that the OPS earnings standard (Johnston formula) permits a price increase only if the earnings of an entire industry fall below 85% of its average earnings in the 1946-1949 period.

Companies say they are being denied increases solely because their costs have been higher than those of others in their industry.

It is contended that such a practice will eventually bring about abnormal price relationships within a company and eventually destroy the basis used in business control.

Readjustments "Too Little and Too Late"

"Too little and too late" is the way executives characterize reaction to price readjustments granted by the OPS. Increased costs, they say, must always be absorbed during a prior period before relief is granted. Full recovery of increased costs "is seldom granted so that profit margins have in many instances shrunk" since the advent of OPS.

Price Rigidity

A growing tendency is reported for top management to leave prices unchanged even though they are regarded to be at other than the most desirable levels. This is partly because "it is difficult to win higher price ceilings, and also because of the fear that price ceilings may well be rolled back if voluntary reductions are made by industry." Numerous instances are reported in which management is reluctant to chance a price reduction in the hope of stimulating demand.

Solution

Because management feels that these hardships will disappear only with the termination of controls, executives favor a quick return to traditional methods of pricing and voice their preference for giving free reign to competitive forces. They are frank to admit: "Under the

(*Please turn to page* 240)

for handling practically any materials... from aggregates to asparagus...





Thermoid has the right conveyor belt for your job

From years of experience in materials handling problems, Thermoid has developed a full line of superior Conveyor Belting. Only the finest materials are used, scientifically compounded to withstand wear and carry the load dependably. This extra margin of endurance means fewer delays due to belt breakage or premature wear.

Whether you are handling boxes, bags, cartons . . . stone, sand, gravel or other aggregates—consult your Thermoid distributor. He can recommend the right type of Thermoid Belt to do the job at the lowest cost per ton of material moved. Write today for your copy of the Thermoid Conveyor Belting Catalog No. 3679

Conveyor & Elevator Belting • Transmission Belting
F.H.P. & Multiple V-Belts • Wrapped & Molded Hose

Thermoid

Rubber Sheet Packings • Molded Products
Industrial Brake Linings and Friction Materials

Thermoid Company • Offices & Factories: Trenton, N. J., Nephi, Utah



We'll Design Them for You or Make Them Exactly to Your Specifications

Either way, you'll be assured of precision workmanship — of getting springs that are all ways good — all ways uniform — that fit in as they should in assembly and perform as they should in service.

Where we are allowed to help in the design and engineering, our specialized experience often develops better, simpler ways of meeting spring requirements — substantially reducing costs on many jobs.

Try us and see. Prompt service, large orders or small.

Inquiries Invited



BErkshire 7-6464

2100 N. MAJOR AVE., CHICAGO 39, ILL.

Kimberly-Clark Awarded Inform-A-Show Exhibit Plaque



The illustration shows exhibit of the Kimberly-Clark Corp., Neenah, Wis., at the 1952 Inform-A-Show held in connection with the 37th annual convention of the N.A.P.A. at Atlantic City, which was awarded a plaque as being "the most informative exhibit" at the show. It was Kimberly-Clark's second such award in three years.

Highlight of the display was a series of step-by-step sequence photographs showing how Kimpack interior packaging is used in packing the Air Force's Link training plane and the plane power unit. Also prominent in the exhibit was the actual package, with Kimpak packing, in which Servomechanisms, Inc., ships the delicate "coordinate converter amplifier unit" for the military.

Surface protection and cushioning of electrical appliances, furniture and other civilian goods were also demonstrated, and part of the space was devoted to Kimwipe industrial wiping tissues.



"Most informative exhibit" awarded Kimberly-Clark Corporation

A Supplier Plays Host



Chicago P.A.'s were among the guests at Caine Steel Company's annual "Opening Day" baseball party. Getting the pre-game buffet lunch under way are, l. to r., Mrs. Robbye McWhorter, purchasing agent, Permo-Flux Corp.; Leon J. Caine, company president; Benton J. Willner, assistant general manager of sales, Inland Steel Co.; Roy W. Wiley, director of purchases, Thor Corporation; Lewis Willner, Luria Brothers.

THE CLEVELAND CONTAINER COMPANY

presents the first of a series of informative messages to assist all those who manufacture, distribute or sell products which require more efficient, economical and attractive packaging.



FUNDAMENTALS OF CONTAINERS IN PACKAGING!

TYPE No. 1 — PLAIN ALL FIBRE CAN

PRICE ADVANTAGE . . . The LOWEST PRICED in the field of fibre cylindrical containers!

STURDY CONSTRUCTION . . . Quality chipboard in the sidewall provides rigidity. The bottom, a well formed cap, firmly glued on. The top cap is assembled loose and shrunk to the sidewall of the body of the container and provides a snug friction fit. Note also . . . pouring spout cap and pouring plug cap, illustrated above. Die cut embossed caps also available.

WIDE RANGE OF SIZES . . . Produced in diameters from a minimum of ¼" to 7½" maximum. Lengths as desired.

OPTIONAL, ADDITIONAL FEATURES . . . ADDED PROTECTION TO CONTENTS: Moisture resistant or grease proof barriers are provided by lining interiors with paraffin, glassine, parchment, aluminum foil, anti-corrosive paper, or other lining materials, as the customer may desire.

VARIOUS EXTERIOR TREATMENTS . . . Colored spiral wraps may be specified and added for individuality. With certain sizes of containers, one color printing or a continuous printed wrap can be spiraled on all sizes at a definite saving, as compared with the cost of the labeled type container.

MULTIPLE PACKING ADVANTAGES . . . To ensure safe delivery, your CLEVELAND CONTAINERS are packed in high test corrugated shipping cartons for convenient handling, and to reduce valuable storage space.

This No. 1 all fibre can is excellent for packaging all types of dry products, such as chemicals, drugs, insecticides, detergents, cleansers, deodorants, dry foods, moth crystals, water softeners, seeds and similar products.

It provides added SAFETY and LOW COST for packaging many miscellaneous products, such as leather valves, washers, bearings, nuts, bolts, tape, bushings, spare parts, typewriter ribbon rolls, wire coils, etc.

* * * * * *

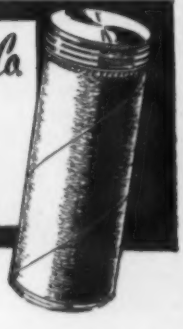
Additional copies of this message available on request.

Tell us your needs. Our large production capacity . . . conveniently located plants ensure prompt customer service at low cost.

Why pay more?
For the best . . .
Call CLEVELAND!

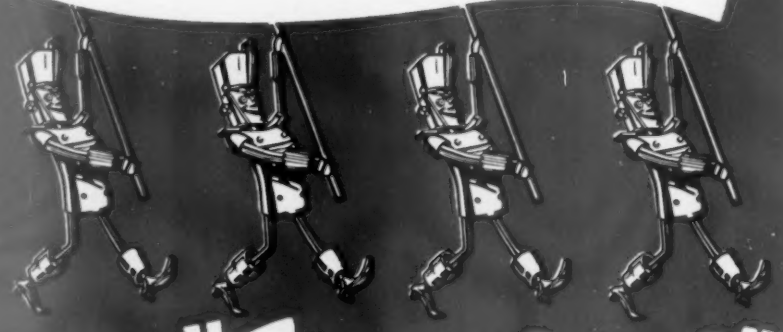
The CLEVELAND CONTAINER Co.
6201 BARBERTON AVE. CLEVELAND 2, OHIO
• All-Fibre Cans • Combination Metal and Paper Cans
• Spirally Wound Tubes and Cores for all Purposes

PLANTS AND SALES OFFICES: Cleveland, Detroit, Chicago, Plymouth, Wisc., Jamesburg, N. J., Ogdensburg, N. Y. • ABRASIVE DIVISION at Cleveland
SALES OFFICES: Grand Central Terminal Bldg., New York City; Washington Gas Light Bldg., Washington, D. C.; West Hartford, Conn.; Rochester, N. Y.
Cleveland Container Canada, Ltd., Prescott, Ontario • Offices in Toronto and Montreal



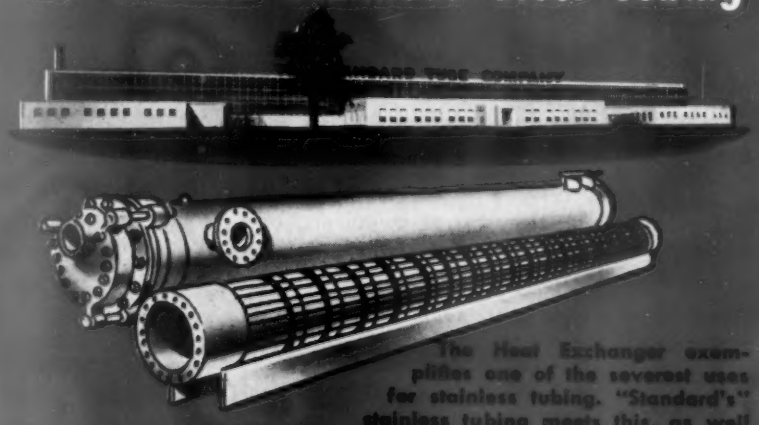
Keep in Step with—

RIGID GOVERNMENT TUBING REQUIREMENTS



SPECIFY "Standard"

for Welded Stainless Steel Tubing



The Heat Exchanger exemplifies one of the severest uses for stainless tubing. "Standard's" stainless tubing meets this, as well as many other different requirements for strength, and heat and corrosion resistance.

Deal with the Specialist among Specialists

A tubing specialist, like other specialists, knows his trade best.

When you deal with "Standard" you deal with a tubing specialist who manufactures millions of feet of tubing every month from stainless and carbon steel—and for 25 years has been serving all types of industry for mechanical and pressure tubing applications.

If you need stainless tubing, be sure you specify "Standard". It pays to deal with the tubing specialist among specialists.

Stainless Tubing Size and Thickness
⅜" O.D. to 3" O.D.
.028 to .095 wall
Carbon Steel Tubing
½" O.D. to 5½" O.D.
.028 to .260 wall

THE STANDARD TUBE CO.
Detroit 28, Michigan
Welded Tubing — Fabricated Parts
STANDARDIZE with STANDARD — It Pays



(*Continued from page* 234)

operations of free markets, there may be periods of short duration which generate high prices, but such prices inevitably bring an outpouring of goods which, in turn, automatically reduce prices."

NEW LAMINATED PLASTIC TUBING ANNOUNCED BY GE

A special moisture resistant machining grade of G-E Textolite laminated plastic tubing has been developed for textile applications. The new laminate is in production at the General Electric's Chemical Division plant in Coshocton, Ohio, and is presently being used for the manufacture of sizing cylinders by the Wood Plastics Company, Wayne, Pa.

Development work on this application,



done by G.E. in conjunction with the Wood Plastics Company, has produced sizing cylinders of exceptional durability and long service. The cylinders have excellent moisture resistance as well as the high caustic and acid resistance which is necessary for throwing. They are presently being used to handle nylon and silk.

Light tan in color, there is no danger of color bleed. The cylinders measure 7" long, have an I.D. of 5⅝", with a wall thickness of ¼". Being concentric inside to outside, smooth performance is obtained. The exteriors of the sizing cylinders are sanded and buffed to produce an exceptionally smooth finish.

STEEL CONTAINER DIRECTORY ISSUED

A new Directory of manufacturers covering over 90 per cent of the national production of steel shipping containers has just been issued by the Steel Shipping Container Institute, Inc., 600 Fifth Avenue, New York 20.

In addition to listing manufacturers, plant locations and types of containers manufactured, the Directory is replete with factual data on annual production of the various types of containers, utilization by industries and other statistics and traces the development of the industry to the present time.

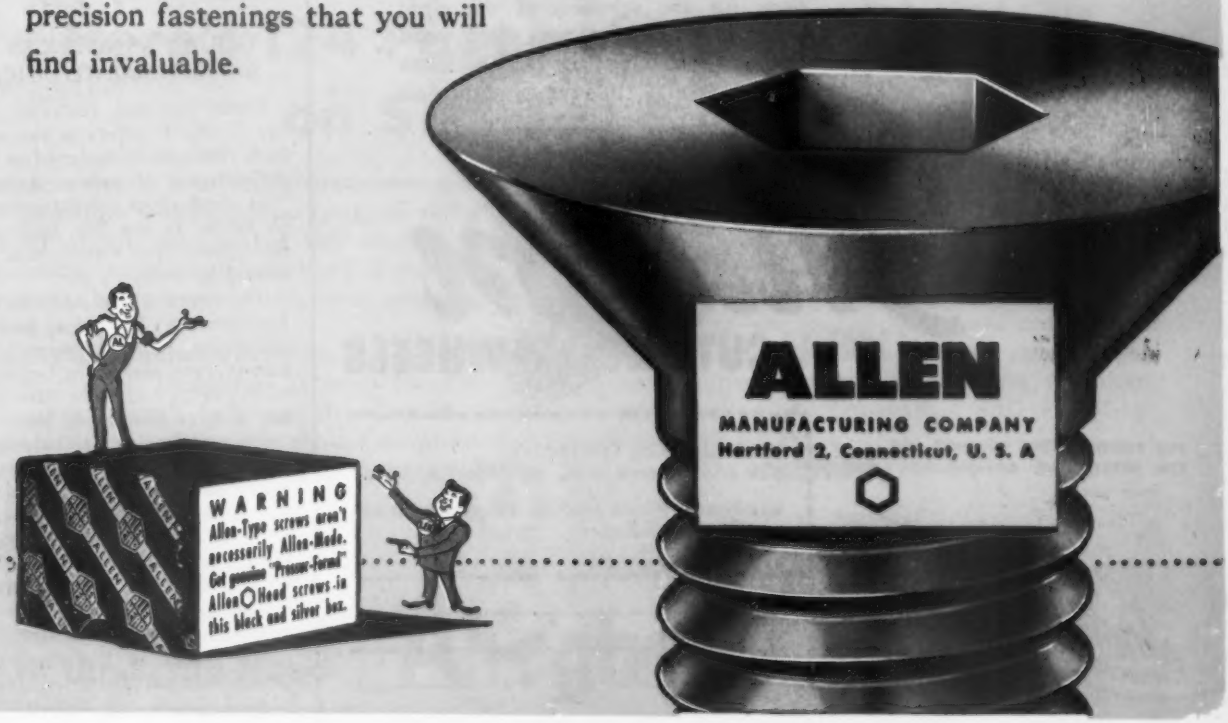
(*Please turn to page* 244)

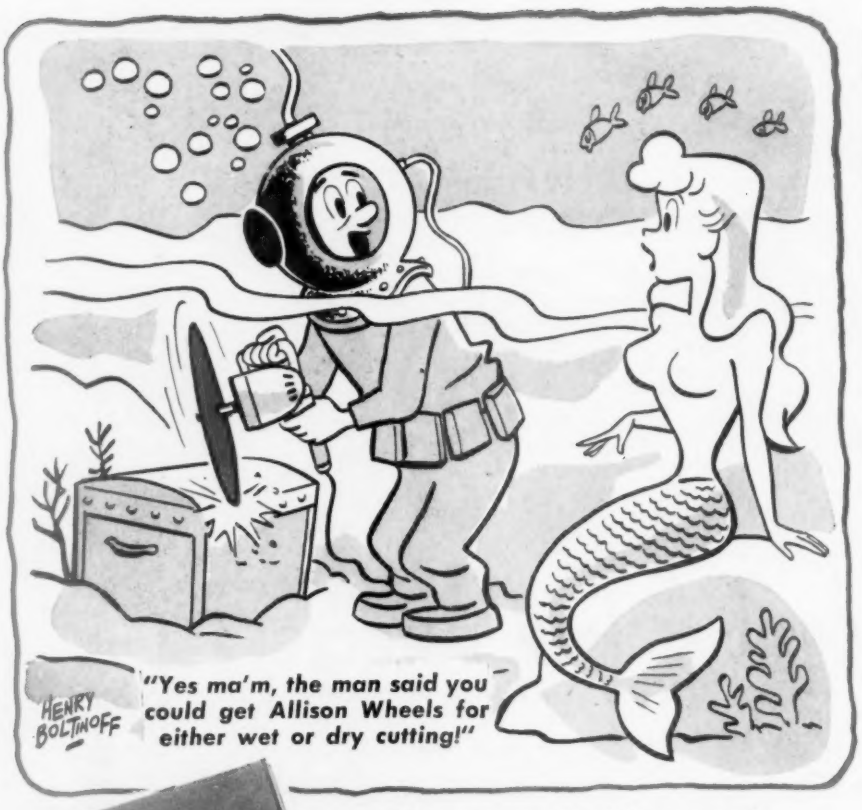


Standard symbols for PRECISION

A "mike" and an Allen Key keep steady company wherever precision measurements and precision adjustments go hand in hand . . . and where positive locking and vibration-free performance are important to maintaining precision.

Look for the First Name in precision screws at the Industrial Distributor who stands first in *his* field in your locality. He has the stock, the experience, and a wealth of specific information on applications for precision fastenings that you will find invaluable.







Right you are, friend diver, regardless of the method of abrasive cutting you use — or the material you're cutting — there's an Allison Abrasive Wheel that will do the job more efficiently, more economically. Whether it's steel, glass, non-ferrous metals, ceramics . . . tubing, shapes or bar stock . . . Allison Wheels cut at high speeds, cleanly to a few thousandths.

For complete data on both wet and dry cutting . . . information on abrasive machines . . . recommendations for the selection of the *right* Allison Wheel for your job, send coupon for a copy of the NEW Allison Catalog. You'll find it a *treasure chest* of valuable information.

Allison
ABRASIVE CUTTING WHEELS

THE TOUGHER THE CUTTING JOB . . . THE BETTER THE OPPORTUNITY FOR

abrasive cutting

THE ALLISON COMPANY
259 Island Brook Ave., Bridgeport 8, Conn.

Gentlemen: Please send me a copy of your new catalog.

*Name*_____

*Company*_____

*St. & No.*_____

*City*_____ *State*_____

ENLARGED EDITION OF EXCHANGER STANDARDS

Extensively revised and enlarged, a new 162-page edition of "Standards of Tubular Exchanger Manufacturers Association" has just been released for general distribution. The announcement was made by George P. Byrne, Jr., TEMA secretary-treasurer.

The new edition, identified as the Third Edition, comprises 58 more pages than the Second or 1949 Edition. Not only has the material in the 1949 edition been revised and expanded, with additions to the mechanical and thermal standards to conform with current findings and conclusions of the TEMA Technical Committee, but two entirely new sections have been added. One gives the mechanical standards for alloy steel heat exchangers and the other contains general information valuable to designers, fabricators and users of heat exchangers.

Previous editions covered standard nomenclature, material specifications, thermal standards and maintenance suggestions, as well as the mechanical standards for carbon steel and nonferrous alloy construction, both for Class R Heat Exchangers (designed to comply with API-ASME and SAME Codes) and Class C Heat Exchangers (non-code construction for commercial applications). The new edition incorporates complete mechanical standards for alloy steel construction, known as Class A, thereby making the book of more widespread interest and usefulness to industry as a whole and especially applicable to the chemical, petro-chemical and process industries.

Format of the new 162-page edition is 8½ x 11, semi-flexible simulated leather cover, wire ring binding. Copies are available to non-members at the Association's publishing cost of $5.50 post paid, by writing TEMA, 53 Park Place, New York 7, N. Y.

* * *

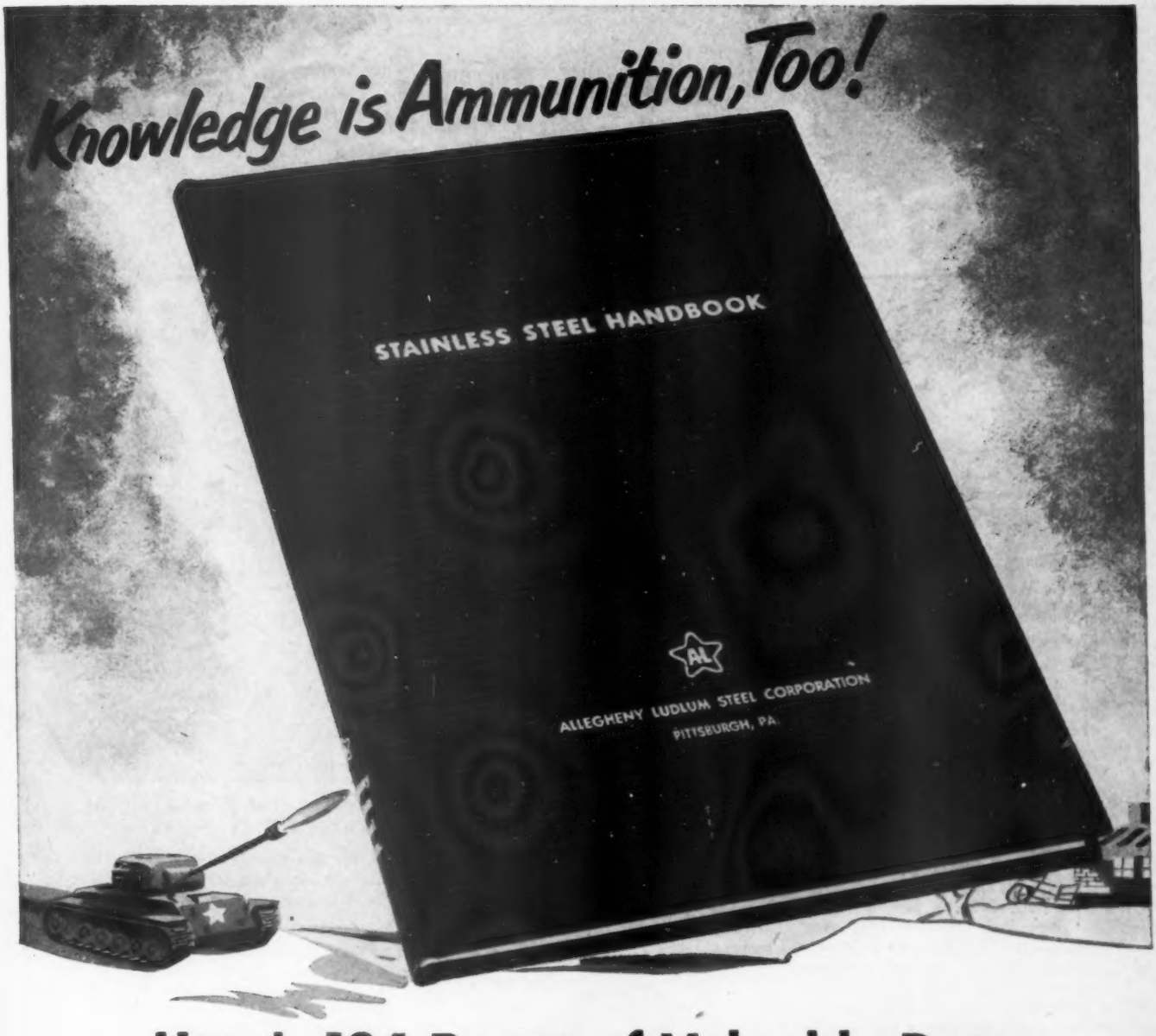
GOULD ANNOUNCES MOTIVE BATTERY MAINTENANCE CHART

Gould-National Batteries, Inc., Trenton 7, N. J. offers a two-color 17x32-inch check-chart designed to improve the maintenance of motive power batteries. The check-chart tabulates the procedures to follow in the five basic maintenance operations and shows how often each should be done.

The chart, a new addition to the Plus-Performance Plan for conserving and increasing battery power, standardizes battery care, makes the battery man's job easier, helps train new maintenance men, and assures continuous battery care.

Illustrated with five cartoons, it establishes rules to follow in charging, adding water, keeping records, cleaning batteries, and handling them safely, easily and efficiently — the care that insures longer battery life and dependable performance. It also explains how accurate records keep maintenance men informed about battery conditions.

For copies of the check-chart write Gould-National Batteries, Inc., Trenton 7, N. J.



Here's 124 Pages of Valuable Data on STAINLESS STEEL

Stainless steel is a critical rearmament material. As the nation's mobilization program shifts into higher speed, supplies of this vital alloy are becoming increasingly restricted. If you're using stainless, be sure you make every pound go as far as possible.

Allegheny Ludlum's new 124-page, case-bound Stainless Steel Handbook is ready for distribution now. It will help you to select the right stainless steel and to use it right. Comprehensive listings of analysis, properties and characteristics of each type will guide you in specifying grades that will do your job most efficiently. Clear, concise fabrication data will help you speed production and cut waste.

Your copy of the Stainless Steel Handbook will be sent—*without charge*—upon request. Our only stipulation: please make your request upon your company letterhead. • Write Allegheny Ludlum Steel Corporation, Oliver Bldg., Pittsburgh 22, Pa.

ADDRESS DEPT. P-31

W&D 3947

Remember this also
America must have more Scrap to make more Steel!
Get in the Scrap Now!

You can make it **BETTER** with
Allegheny Metal

AL
TIME-TESTED STAINLESS STEEL

Personalities IN THE NEWS



Arthur M. Over has been named Director of Purchases for The Rust Engineering



Arthur M. Over

Company, Pittsburgh, Pa. This is a newly created position. A. M. Duncan continues as Purchasing Agent.

Mr. Over, formerly an assistant project manager, joined Rust in 1946 after service in World War II with the Corps of Engineers. He had received a degree in mechanical engineering from Lehigh before entering service. A field engineer with Rust until he was made a field superintendent in 1950, Mr. Over became an assistant project manager the following year when he was returned to the Pittsburgh headquarters.

William Enchelmeyer has been appointed Purchasing Agent for the Ink Division of the J. M. Huber Corporation, with headquarters in Brooklyn, N.Y. For the past year, he has been manager of the Huber ink laboratory pilot plant. Mr. Enchelmeyer has a B.S. degree in chemical engineering from Tufts College.

Raymond P. Kane, Director of Purchases for The United States Printing & Lithograph Company, was recently elected a vice-president. Mr. Kane maintains his headquarters at the Mineola, N. Y., plant of the company, which has its executive office in Cincinnati, O.

Fred R. Collier has been promoted from Purchasing Agent to Store Manager of the main warehousing operation of Motor Hardware and Equipment Company, San Diego, Calif. Mr. Collier has been Purchasing Agent of the company for the past five years, and is currently vice-president of the Purchasing Agents Association of San Diego. Mitchell J. Lange, formerly Service Manager, has been named Purchasing Agent to succeed Mr. Collier.

W. K. Smallridge has been appointed Purchasing Agent for the Northern Pacific Railroad, St. Paul, Minn. Mr. Smallridge, formerly Assistant Purchasing Agent, succeeds E. N. Willis, who has retired after 48 years of service with the railroad.

Clifford A. Glassman has joined Acme Industries, Inc., Jackson, Mich., as Purchasing Agent. Mr. Glassman began his business career with Bendix Corporation in 1934. From 1946 to 1950 he was Purchasing Agent in the mechanical division of General Mills, Inc.

W. H. Mansfield has been appointed Purchasing Agent for Perfection Stove Company, Cleveland, O. Mr. Mansfield, a



W. H. Mansfield

member of Perfection's purchasing department since 1947, succeeds P. T. Skove, who has been elected Secretary-Treasurer of the company.

Mr. Skove, who came to the company in 1909, and has been Purchasing Agent since 1932, had also served as Assistant Secretary since 1917 and as a member of the board of directors since 1948.

Mr. Mansfield came to Perfection as an expediter in the purchasing department, following four years service with the Navy in World War II. A graduate of Ohio Wesleyan University, he has taken special courses in mechanical engineering and accounting at Fenn College, Harvard Business School and Wayne



P. T. Skove

University. Before the war, he was a field engineer with Trundle Engineering Co., Cleveland.

David L. George has been named purchasing Agent for the Container Division of the International Paper Company, New York, N.Y. He succeeds C. W. Emberley.

P. D. Messler has been appointed Assistant Manager of Purchasing for Inland Steel Products Company, Milwaukee, Wis. He was transferred from the Baltimore, Md. branch of the Inland Steel subsidiary, where he was in charge of purchasing and stock control. Mr. Messler was formerly buyer of mill supplies and machine tools for Bethlehem Steel Company at its Baltimore and Bethlehem, Pa. operations.

Arthur G. Paugh has been appointed Purchasing Agent for Rockwell Manufacturing Company, National Meter Division, Brooklyn, N.Y. He succeeds David R. Fowler, who has retired after 50 years of service. Mr. Fowler will continue to serve in an advisory capacity for an indefinite time.

C. H. Albright has been appointed Purchasing Agent for Mercer Tube & Manufacturing Company, and Shenango Agaloy Tube Company, Sharon, Pa. He succeeds the late William F. Rodgers.

(*Please turn to page* 280)

Why Synthetic Rubber Is Here to Stay Despite Removal of Natural Rubber Restrictions

New oil-extended synthetics cost less, last longer, increase rubber supply

World War II cut off our supply of natural rubber. The Korean War put it under Government controls. So the past 11 years have been years of intensive synthetic rubber research and development. Such amazing advances have been made that the lifting of Government controls on natural rubber will have little effect on the use of synthetics.

Suitable plasticizer needed

Prior to World War II, most butadiene synthetic polymers were considered commercially unusable. These rubberlike materials were difficult and costly to process. All known processing methods caused a loss in desired characteristics. What was needed was an inexpensive process aid that would make synthetic polymers workable without destroying their molecular structure. In 1940, at the outset of the American synthetic rubber program, numerous petroleum derivatives were submitted by oil refiners to the rubber industry for testing as process aids or plasticizers. Sun Oil Company, in addition, set up an intensive research program of its own. Sun felt it had to acquire extensive firsthand knowledge of petroleum chemistry, as applied to rubber processing, if it was to assist in the solution of the problem in the shortest possible time. Sun's research program proved invaluable.

In 1941 Sun introduced Circosol 2XH, which turned out to be the much-needed plasticizer. Its use during the war years helped keep civilian and military automotive equipment on the move.

New developments increase supply, improve wear

In 1946, when natural rubber came back, emphasis on the synthetic program decreased. The Korean War, however, with Government control of natural rubber, gave synthetic rubber research its second impetus. The problem this time was to extend the supply of synthetic rubber by developing new types that would wear longer.

Rubber technologists knew how to make tougher synthetic polymers, but they were almost impossible to process with standard equipment. Once again petroleum derivatives were tried as plasticizers. And once again Sun Oil Company came through with the plasticizers that would do the job. Circosol 2XH and a newly developed product, Sundex 53, made it practical to use the new, tough synthetic polymers. In addition, it was found that by adding large amounts of inexpensive Circosol 2XH or Sundex 53, one can get *more* synthetic rubber from a given amount of raw materials. These Sun process aids have helped make it possible to increase the supply of synthetic rubber at least 22 percent. Products made from oil-extended synthetic rubbers last longer and cost less. That's why these new oil-extended synthetic rubbers are here to stay.

A concrete example of *why* is found in the tire industry. The oil-extended synthetic used by one company, as compared with standard synthetic rubber, gives *32 percent more tires* from a given amount of raw materials. These tires *wear 18 percent longer* and *cost 31 percent less.*

For more information...

If you are working with synthetic polymers, Sun will be glad to put its experience and technical assistance at your disposal. Just write to **Sun Oil Company, Dept. PU-7, Philadelphia 3, Pa.**

HOWE Scales



JUST OFF THE PRESS



Let Us Send You This New Condensed Catalog

The *NEW* Howe Scale Condensed Catalog showing a complete line of industrial scales and hand trucks is yours for the asking. Includes data on the new Howe Weightograph and the new Howe Tape-Drive Dial Scale line for improved weighing operations. Send for your copy today.

The HOWE SCALE Co.
RUTLAND, VERMONT

Dept. P7, Rutland, Vermont

Please send me:
HOWE CONDENSED SCALE CATALOG NO. 11 ☐
HOWE HAND TRUCK CATALOG NO. 15-B ☐

Name _____
Title _____
Company _____
Address _____
City _____ State _____

John O. Printy of St. Louis, Mo., has been appointed Purchasing Agent of Monsanto Chemical Company's Merrimac Division, Everett, Mass. He succeeds W. P. Sheppard of Braintree, Mass., who joins the company's Purchasing and Traffic Department at its headquarters in St. Louis. Mr. Printy is a member of the American Chemical Society.

Floyd G. Eggleston has been appointed Division Purchasing Agent of the Gulf Coast Producing Division of The Pure Oil Company, with headquarters at Houston, Tex. Mr. Eggleston, who has been with the company for 21 years, has been in materials and purchasing posts in Houston; Mount Pleasant, Mich.; and Chicago, Ill. He succeeds Sam H. Harper, who recently resigned his position.

Ralph Dietrich has been appointed Purchasing Agent for the Standard Furnace Supply Co., Ltd., Omaha, Neb., succeeding E. M. Andersen, resigned.

W. G. Hock, a buyer for Simmons Company, Elizabeth, N.J., retiring after 35 years of service with the company, was recently tendered a surprise luncheon by a group of salesmen. Mr. Hock was presented with a television set and an "E" Bond. W. J. Brown was toastmaster.

Francis X. Golden, formerly a buyer, has been named to the new position of Purchasing Agent for packaging and sales promotional material for General Foods Corp., New York, N.Y.

Stewart J. Tietjen has been appointed Director of Purchase for the American Fabrics Company, Bridgeport, Connecticut. Previously Mr. Tietjen was associated with the H. W. Gossard Co. and prior to that served as Assistant Purchasing Agent of Clarence Whitman & Sons, Inc.

John E. Pyron, Purchasing Agent for Thompson and Company, Pittsburgh, Pa., was recently elected Vice President of the company at a meeting of the board of directors.

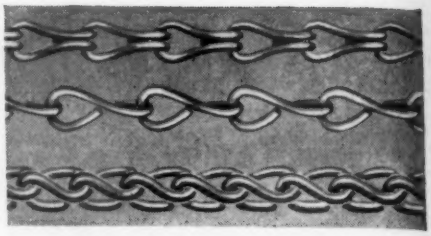
AMONG THE COMPANIES YOU BUY FROM

Los Angeles, Calif.—Norton Company. Robert Cushman has succeeded Lucien Gay, retired, as Pacific Coast district manager, with headquarters here. He will be responsible for California, Oregon, Washington, northern Idaho, and Montana.

New York, N.Y.—Lukens Steel Company, Edmund Pfeifer, formerly district manager of sales in the Boston office, has been named district manager of sales here.

New York, N.Y.—Federated Metals Division, American Smelting and Refining Company. Walter W. Edens has been added to the sales engineering staff, and will be concerned primarily with the foundry trade.

(*Please turn to page* 250)



When you need

Quality Chain

in standard types ... or special

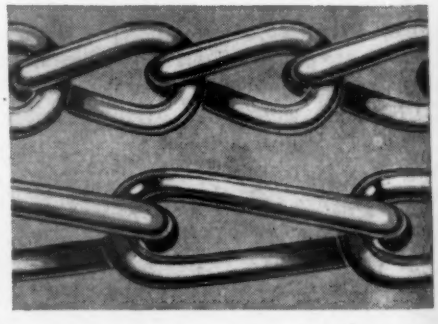
Chain Assemblies

...it will pay you to buy

HODELL

Top-quality, long-lasting Hodell Chain is made in many standard types and sizes for industrial use. We also manufacture many formed wire specialties, and will welcome an opportunity to quote on your specifications for special chain assemblies. Write for our industrial catalog, giving complete information on the Hodell line.

HODELL CHAIN COMPANY
Cleveland 3, Ohio
Div. of The National Screw & Mfg. Co.



Clip coupon now... to get your copy... describing...

America's most beautiful Coolers!



1. Tells how to accurately determine the number and type of coolers needed for any installation. Room temperatures, type of work and all other factors are considered.

2. No less than 9 basic models to choose from, including the amazing *new low cost remote type cooler.* A model *for every need.*

Since 1929
Temprite
PRODUCTS CORPORATION
BIRMINGHAM, MICHIGAN



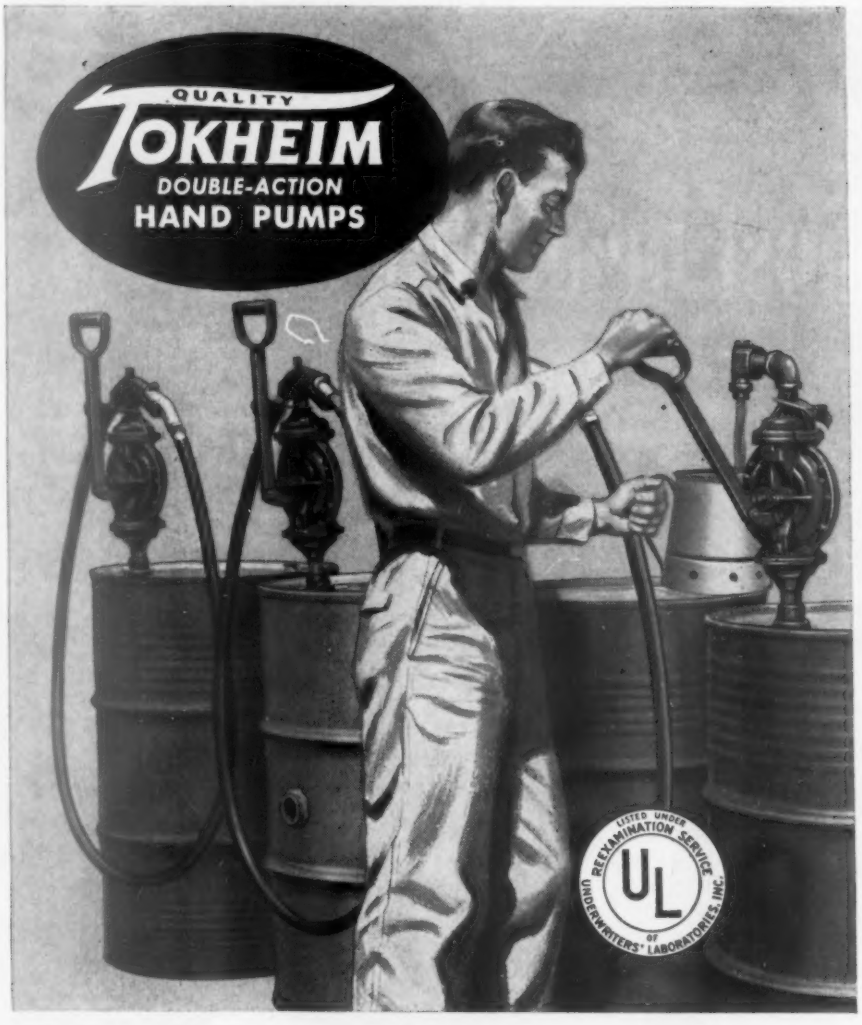
TEMPRITE PRODUCTS CORP.
P.O. Box 72-L, East Maple Rd.
Birmingham, Michigan

☐ Send me your complete line brochure
☐ Tell me where I can purchase Temprite Coolers

Name_____

Address_____ Zone_____

City_____ State_____



SAFER HANDLING

OF PETROLEUM AND SCORES OF OTHER LIQUIDS!

DO YOU NEED A PUMP FOR THESE LIQUIDS?

A Tokheim Will Handle Them All and Others. Tell Us Your Problem!

ACETATES ☐
ALCOHOLS ☐
AROMATIC SOLVENTS ☐
CHLORINATED SOLVENTS ☐
GLYCOLS ☐
KETONES and ETHERS ☐
PETROLEUM SOLVENTS ☐
PLASTICIZERS ☐
PETROLEUM PRODUCTS ☐

For safer, better handling of liquids in plant or field, look to TOKHEIM PUMPS. This new double-action hand pump stops wasteful, dangerous dripping and slippery floors. Reduces fire hazard and accidents common to other methods of transfer. Saves on drum storage space. Speeds production, reduces operating costs. Handles scores of liquids efficiently. Choice of hose and spout models—for drums, skid tanks and underground installations.

Write for literature

General Products Division

TOKHEIM OIL TANK AND PUMP COMPANY

Wabash Avenue, Fort Wayne 1, Indiana

Factory Branch: 1678 Howard Street, San Francisco 3, California

Pittsburgh, Pa.—Allegheny Ludlum Steel Corporation. Truman B. Brown, formerly district sales manager in Detroit, has been appointed assistant to the vice-president—sales. Ian R. Kiltie, a member of the Detroit sales staff, has been appointed district manager of sales there to succeed Mr. Brown. H. H. Lardin has been named assistant manager.

New Bedford, Mass.—New Bedford Cordage Company. Hazid C. Conkling has been promoted to assistant sales manager.

New York, N.Y.—Bakelite Company, Division of Union Carbide and Carbon Corporation. All Bakelite's sales activities have been consolidated under a new program, eliminating separate groups known as the Thermoplastics Department and



George C. Miller

the Thermosetting Deparment. George C. Miller has been named vice-president in charge of sales, and will be responsible for all of the company's sales. Clinton W. Blount becomes vice-president and general sales manager.

Minneapolis, Minn.—St. Paul Hydraulic Hoist. Leo M. Brown has been appointed assistant sales manager.

Toledo, O.—Libby-Owens-Ford Glass Company. J. M. Johns, for several years manager of industrial sales, has been named general manager of the new Fiber Glass Division.

Chicago, Ill.—Hercules Powder Company. Charles A. Grant has been appointed district sales manager here for the Cellulose Products Department.

Hartford, Conn. — Firestone Plastics Company. R. W. Briner has been appointed by the Firestone Chemical Sales Division as sales representative for the New England territory. He will make his headquarters at the new sales offices here.

New York, N.Y.—Brown & Sharpe Mfg. Co. John H. Biggs, formerly representative in Philadelphia, has been named a representative of Brown & Sharpe of New York, Inc. He succeeds Joseph H. Skelton, retired, and takes charge of the New York office. John J. McAleese succeeds Mr. Biggs in Philadelphia.

(*Please turn to page* 254)

Heavy-duty axles and shafts made without heat treating—with pre-hardened *free-cutting* CARILLOY FC



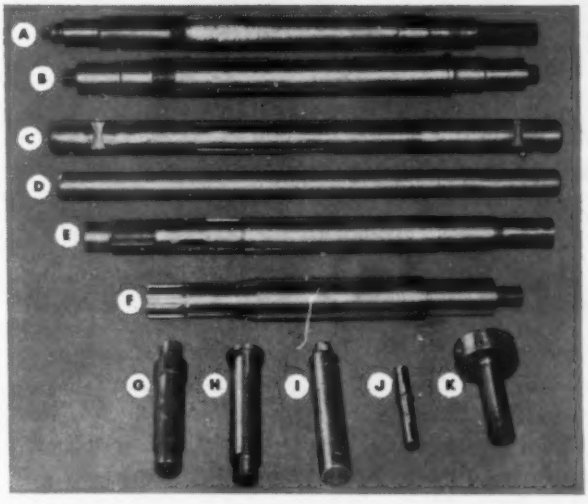
● Every year, over 5 million tons of coal pour out of the 6 Fairmont, West Virginia region mines of Consolidation Coal Company (W. Va.). All repair and rebuilding of the hard-working equipment used in these mines are done at the company's Monongah, W. Va., maintenance shop.

Here, highly skilled machinists make everything from mine locomotive axles to armature shafts. Each new part they make must be as strong as the original, without benefit of heat treatment after machining.

So here is just the place for a very special kind of alloy steel.

Consolidation Coal Company (W.Va.) has found that they can produce practically all of the heavily stressed parts they use in their own shops—without heat treating—with a special grade of alloy steel, such as U·S·S CARILLOY FC steel. This pre-hardened, free-cutting alloy steel is received from the mill already quenched and tempered to the hardness required. No further heat treatment is necessary. Finished parts have a minimum tensile strength of 140,000 psi. and good surface finish.

U·S·S CARILLOY FC offers you important advantages if you have to make heavy-duty shafting or other parts that require 125,000 to 175,000 psi. steel. This deep-hardening manganese, chromium, molybdenum alloy steel is available quenched and tempered from 255 to 375 Brinell. You don't have the expense of heat treating after machining and you eliminate rejects caused by distortion and scaling.



HERE, in the Monongah, W. Va., maintenance shop of Consolidation Coal Company (W. Va.), a machinist turns a CARILLOY FC axle for a 20-ton locomotive.

• • •

CARILLOY FC is used in machining this great variety of parts. Notice the diversity of applications handled by one grade of alloy steel: (A) is an armature shaft. The following parts are for loading machine: (B) loading clutch shaft, (C) conveyor take-up shaft, (D) conveyor hinge pin, (E) transmission clutch shaft, (F) caterpillar drive axle, (G) caterpillar idler axle, (H) sprocket shaft, (I) caterpillar take-up shaft, (J) hydraulic pump shaft, (K) caterpillar take-up screw.

For *production* work, remember that CARILLOY FC, easy to machine, is easy on your tools—some users report that tools last 300% longer, and more pieces can be produced per hour.

CARILLOY FC is available now, quenched and tempered *or* annealed, in all standard bar forms and sizes.

It costs only a fraction of a cent more per pound than ordinary through-hardening alloy steels.

UNITED STATES STEEL COMPANY, PITTSBURGH • COLUMBIA-GENEVA STEEL DIVISION, SAN FRANCISCO
TENNESSEE COAL & IRON DIVISION, FAIRFIELD, ALA. • UNITED STATES STEEL SUPPLY DIVISION, WAREHOUSE DISTRIBUTORS
UNITED STATES STEEL EXPORT COMPANY, NEW YORK

USS

Carilloy Steels

2-913

ELECTRIC FURNACE OR OPEN HEARTH — COMPLETE PRODUCTION FACILITIES IN CHICAGO OR PITTSBURGH

UNITED STATES STEEL



For safer assemblies use the dependable

extra strength

of Cleveland High Carbon Heat Treated Cap Screws

● For assembly jobs needing fasteners of high tensile strength, it pays you to use popular Cleveland High Carbon Heat Treated Cap Screws—those accurately formed, extra strong screws. They're toughened by heat treating—but that's not the whole story of their dependable holding quality. They're notably *stronger* because made of high carbon steel by the Cleveland-developed Kaufman *Double Extrusion* Process of cold forging—a method that assures you fasteners in which the steel's grain flow conforms to the contour of the screw. Controlled high temperature hardening and drawing give them the extra benefits you expect from heat treated parts. Be sure to specify and buy Cleveland High Carbon Heat Treated Cap Screws.

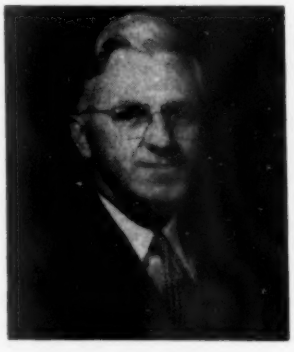
CLEVELAND *Top Quality* FASTENERS

THE CLEVELAND CAP SCREW COMPANY
2922 East 79th Street, Cleveland 4, Ohio
Warehouses: Chicago • Philadelphia • New York • Providence
originators of the Kaufman DOUBLE EXTRUSION Process
Ask your jobber for Cleveland Fasteners

Cleveland, O.—Pittsburgh Coke & Chemical Company. Edison H. Shaw has been appointed district sales representative for the Plasticizer Division.

Pittsburgh, Pa.—Westinghouse Electric Corporation. F. D. Weatherholt has been appointed sales manager of industrial products, with headquarters here. He was formerly manager of the Apparatus Division's industrial department at East Pittsburgh.

New York, N.Y.—The Fairbanks Company. Edmund T. Flanagan has been elected vice-president in charge of sales.



Edmund T. Flanagan

Mr. Flanagan has over 30 years' experience with Fairbanks, and most recently was New York and regional sales manager.

Cincinnati, O. — Mehl Manufacturing Company. Ronald J. Thain has been appointed sales representative in southwestern Ohio, parts of West Virginia, parts of Virginia and parts of Kentucky.

Detroit, Mich. — Carboloy Department, General Electric Company. Frank J. Staroba has been named field sales manager with headquarters here. L. L. DeCoster succeeds him as mid-western district manager with headquarters in Chicago.

Chicago, Ill.—Inland Steel Container Company, manufacturing subsidiary of Inland Steel Company. Thomas R. Nugent has been named to the newly-created position of sales consultant. Gordon L. Sheehan succeeds him as central regional sales manager.

Milwaukee, Wis.—Allis-Chalmers Manufacturing Company. A. E. Dorn has been appointed industrial sales manager, Tractor Division.

Syracuse, N.Y.—Lamson Corporation. E. H. Woodberry has been appointed sales manager of the company' pallet loader line.

Pittsburgh, Pa. — Russell, Burdsall & Ward Bolt and Nut Company. Richard D. Baker has been appointed resident vice-president and Thomas Toby has been named assistant manager of sales. Both will be located at the company's new sales offices here at 2100 First National Bank Building.

(*Please turn to page* 258)

2 WALDES TRUARC RINGS REPLACE COTTER PINS AND WASHERS... SAVE $.0219 PER UNIT

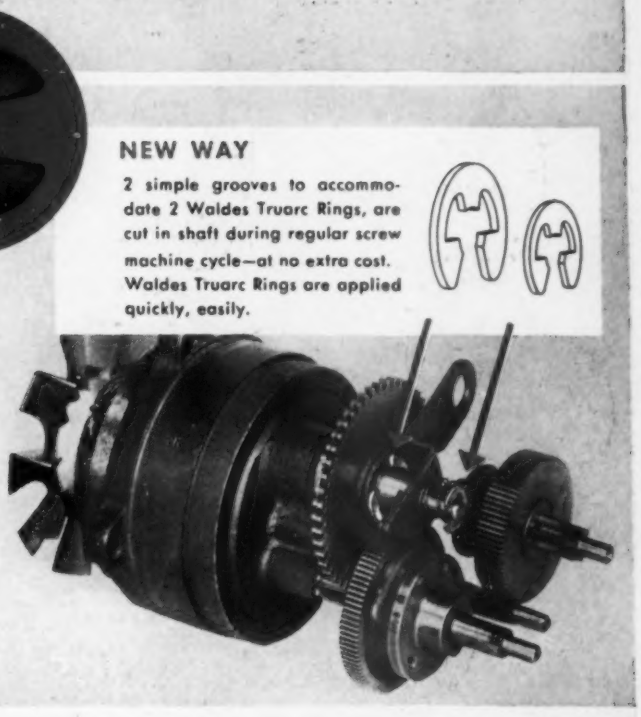
OLD WAY

Cam shaft for breathing roll ironer mechanism required: drilling 2 holes; 2 cotter pins; 2 washers. Inaccuracy in locating holes for cotter pins caused frequent rejects.



NEW WAY

2 simple grooves to accommodate 2 Waldes Truarc Rings, are cut in shaft during regular screw machine cycle—at no extra cost. Waldes Truarc Rings are applied quickly, easily.



Using 2 Waldes Truarc "E" Retaining Rings in their Automatic Cabinet Ironer, saved The Horton Manufacturing Co., Fort Wayne, Ind., $.0219 per unit. Truarc Rings saved 50% in assembly time... cut down on rejects... increased efficiency of the unit... eliminated risk of damage to hands and clothing of workers in assembly.

Redesign with Truarc Rings and you, too, will cut costs. Wherever you use machined shoulders, bolts, snap rings, cotter pins, there's a Waldes Truarc Retaining Ring designed to do a better job of holding parts together.

Truarc Rings are precision-engineered... quick and easy to assemble and disassemble. Remain circular to give a never-failing grip. They can be used over and over again.

Find out what Truarc Rings can do for you. Send your blueprints to Waldes Truarc engineers for individual attention, without obligation.

COMPARATIVE COSTS—

WITH COTTER PINS		WITH TRUARC RINGS	
MATERIAL:		MATERIAL:	
2 washers	.0045		
2 cotter pins	.0017	2 Truarc E Rings	.0283
OPERATIONS:		OPERATIONS:	
drilling 2 holes in shaft	.0223	Cutting 2 grooves	.0000*
ASSEMBLY TIME	.0485	ASSEMBLY TIME	.0268
Total cost	$.0770		$.0551

TOTAL SAVINGS WITH TRUARC RINGS $.0219 PER UNIT

Grooves are cut in shaft during regular screw machine cycle

For precision internal grooving and undercutting... Waldes Grooving Tool.

SEND FOR NEW BULLETINS ➡



WALDES TRUARC

REG. U. S. PAT. OFF

RETAINING RINGS

WALDES KOHINOOR, INC., LONG ISLAND CITY 1, NEW YORK

WALDES TRUARC RETAINING RINGS AND PLIERS ARE PROTECTED BY ONE OR MORE OF THE FOLLOWING U.S. PATENTS: 2,382,947; 2,382,948; 2,416,852; 2,420,921; 2,428,341; 2,439,705; 2,441,846; 2,455,165; 2,483,380; 2,483,383; 2,487,802; 2,487,803; 2,491,306; 2,509,081 AND OTHER PATENTS PENDING.



Waldes Kohinoor, Inc., 47-16 Austel Place, L. I. C. 1, N. Y.
Please send engineering specifications and data on Waldes Truarc Retaining Ring types checked below. P 07-4

- ☐ Bulletin #5 Self-locking ring types
- ☐ Bulletin #6 Ring types for taking up end-play
- ☐ Bulletin #7 Ring types for radial assembly
- ☐ Bulletin #8 Basic type rings
- ☐ Send me information about the Waldes Grooving Tool.

Name_____

Title_____

Company_____

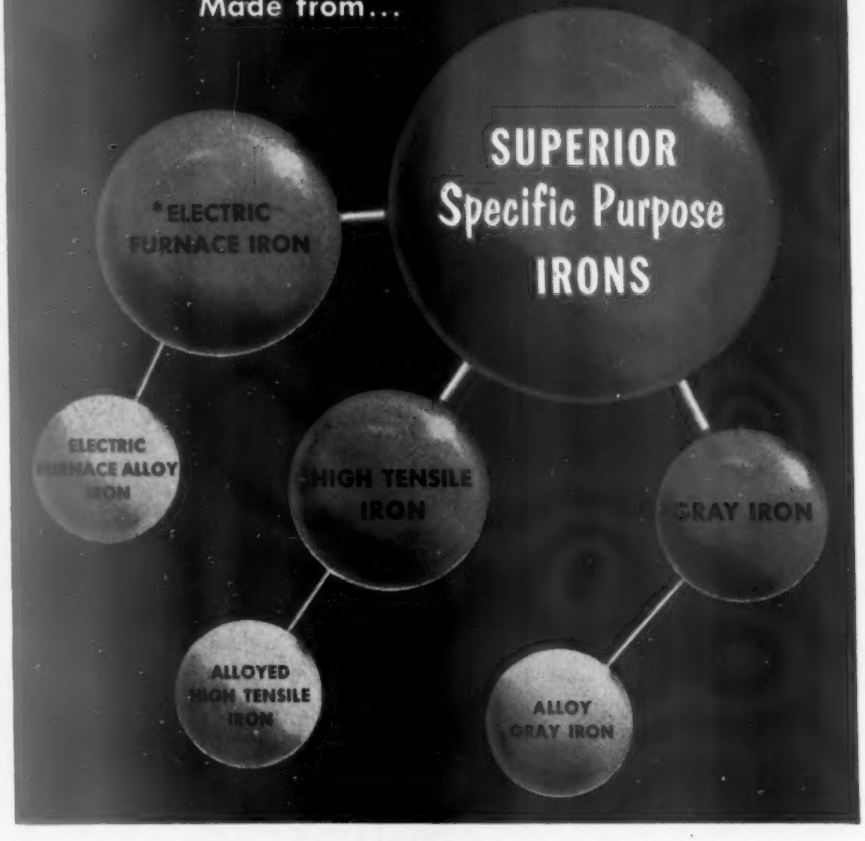
Business Address_____

City_____ Zone_____ State_____ 5678

For the REALLY TOUGH Production Casting Jobs

Superior Special Purpose Castings

Made from...



Put these outstanding PRODUCTION CASTING FACILITIES to work for You...TODAY!

- Three mechanized continuous mold and sand-handling conveyor systems...
- Core capacity to serve all molding stations for 250 tons or more of melt daily...
- Quality Controls that extend from sand to shipment—patterns to palletizing...
- Tensile strengths up to 60,000 psi in castings weighing 6 to 600 pounds.

BEST EVIDENCE of Superior's completely dependable facilities and services are the prominent manufacturers in many industries whose castings, year after year, are engineered and produced by Superior. It could pay you, too, to consult with Superior...today!

* Write today for interesting booklet describing Superior's unique Electric Furnace facilities.

and here's proof—



DRIVE HOUSING for earth-moving equipment. Rugged usage necessitates high tensile iron; strong and dependable throughout.

SUPERIOR FOUNDRY, INC.

3542 EAST 71st STREET • CLEVELAND 5, OHIO

VUlcan 3-8000

SUPERIOR

Member of
American Foundrymen's Society
Gray Iron Research Institute
Gray Iron Founders Society

Aurora, Ill. — Independent Pneumatic Tool Company. The company has inaugurated a new Thor industrial sales division and made the following promotions to effect the new division's expansion of the sales department: J. A. Hill, manager of industrial sales; J. F. Corkery, manager of electric tool sales, to succeed Mr. Hill; G. A. Thoma, sales promotion manager, to succeed Mr. Corkery.

New Orleans, La.—Chicago Wheel & Mfg. Co. Edgar J. Haas, well-known engineer here, has been appointed field representative for the company, and will cover Louisiana, Mississippi, Arkansas and Tennessee.

Cleveland, O.—The Yale & Towne Manufacturing Company, Philadelphia Division. W. R. Blommel has been appointed area branch manager here. He was



W. R. Blommel

formerly plant manager of the materials handling division, Ford Motor Company, from 1945 to 1948. E. D. Bement, Jr., has been named branch sales manager here.

Evanston, Ill.—Rust-Oleum Corporation. The following new distributors have been appointed: Galen Paint Co., Toms River, N. J.; Metropolitan Paint Co., Washington, D. C.; Industrial Equipment & Engineering, Pittsfield, Mass.; Summers Hardware & Supply Co., Johnson City, Tenn.; Wasek Auto Supply Co., Gering, Neb. and Casper, Wyo.; Adkins & Douglas Co., Hurlock, Md.; Stebbins-Anderson Co., Towson, Md.; Parsons Bros., Inc., Bridgeport, Conn.; Carey Bros., White Plains, N.Y.; M. A. Hartnett, Inc., Dover, Del.; Superior-Sterling Co., Bluefield, W, Va.

Pittsfield, Mass.—General Electric Company. Lawrence C. Felder has been appointed sales manager of G-E Textolite plastics surfacing materials.

Philadelphia, Pa.—Link-Belt Company. James H. Oakes, formerly sales manager for enclosed drives, has been named sales manager for the Philadelphia plant. Byron K. Hartman, former assistant sales manager at Philadelphia, has been appointed sales manager for the new plant which will begin manufacturing operations later this year in Colmar, Pa., north of Philadelphia.

(*Please turn to page* 260)

Now! 100% Grit-Free Wiping and Polishing!



Kimwipes* INDUSTRIAL WIPING TISSUES

End the dangers of dirty, scratchy cloths used over and over again! KIMWIPES* industrial wiping tissues are far safer—because they're *disposable*. So inexpensive, a fresh, clean tissue can be used for each application—then thrown away!

KIMWIPES are clean, soft, pleasant to handle—100% free of abrasive matter. Each tissue is a "man's handful" and can absorb up to 16 times its own weight in liquids. Recommended for wiping safety goggles and shields, after applying cleaner liquid. Leaves them sparkling clean. Recommended for wiping up light oils on machinery and hazardous chemicals. Recommended for cleaning instruments and highly finished surfaces. In the handy "serve up" package, KIMWIPES can be conveniently located at several spots in your plant—they serve just *one* at a time.

Order a supply of KIMWIPES today from your distributor. For further information, fill out coupon below or write to Kimberly-Clark Corporation, Neenah, Wisconsin.





THE SAFEST WIPE - IS A KIMWIPE!

KIMWIPES INDUSTRIAL WIPING TISSUES

A Product of **Kimberly-Clark**

*T. M. REG. U. S. & CAN. PAT. OFF.

KIMBERLY-CLARK CORP., Dept. B 8-7
Neenah, Wisconsin
Please send me free, your KIMWIPES literature.

Name _____

Firm _____

Address _____

City _____ *Zone* _____ *State* _____



Whatever your metal cutting problem, there's a STAR BLADE that's just the *right* blade to make your job easy, efficient and fast.

Your supplier has the complete STAR line of hacksaw blades, frames and metal-cutting band saws, the line most people buy.

Sold only through recognized distributors

CLEMSON BROS., Inc.
MIDDLETOWN, N.Y., U.S.A.

Makers of Hand and Power Hack Saw Blades, Frames, Metal Cutting Band Saw Blades and Clemson Lawn Machines.

1083A

Carnegie, Pa.—Columbia Steel & Shafting Company. Tom L. Parker has been appointed vice-president in charge of sales. He has had 15 years of service in various sales capacities with the company.

Chicago, Ill.—National Electric Products Corporation. John L. Marsh has joined the company as midwest regional specialist on all products. He will have headquarters here, reporting to E. M. Nelson, m.dwest regional manager.

Cudahy, Wis.—Ladish Co. Richard M. Bode has been appointed to an executive sales position in the company's valve and fittings division. Formerly with Tri-Clover Machine Co., as vice-president and sales manager, Mr. Bode will be responsible for the marketing of the newly introduced Ladish valve line.



Richard M. Bode

Cincinnati, O.—Quaker Rubber Corporation, Division of H. K. Porter Company. A branch warehouse and sales office has been established here at 430 South Mill Street, Lockland.

Minneapolis, Minn.—Franklin Transformer Company. Kenneth Dawkins has been named general manager of the company's newly organized electrical division. He will also be in charge of sales.

Chicago, Ill.—Flexible Steel Lacing Company. John P. Ramsey has been named sales manager to succeed Hugh L. Coats. Mr. Coats is continuing as secretary and director of the company.

Milwaukee, Wis.—Interstate Drop Forge Company. Donald K. Davis has been named sales manager of the Special Products Division.

Claymont, Del.—Claymont Steel Corporation, subsidiary of The Colorado Fuel and Iron Corporation. Robert F. Bourne has been appointed general sales manager to succeed Richard M. Worth, resigned.

York, Pa.—York Electric & Machine Company. P. J. Monaghan, Jr., formerly with the American Hammered Piston Ring Division of Koppers Company, has joined York as sales manager.

LIKE AN
ATOM-IC
EXPLOSION

Just 1/32" (pinhole size) faucet leak
MUSHROOMS into ATOMIC WASTE
of approximately 95,000 gallons
of water yearly—costing:
$24.14
@ $1.90 per M cubic feet

If a hot water faucet, then (actual) FUEL WASTED heating 95,000 gallons costs approximately:

$88.91 if coal (9879 lbs.)
$91.08 if oil (792 gals.)
$84.41 if gas (84,411 cu. ft.)

Above figures authenticated by Hackensack Water Co. and American Gas Association.

STOP this needless WASTE during today's MATERIAL and MANPOWER shortages with "SEXAUER" "Easy-Tites" that outwear ordinary faucet washers 6-to-1, thus SAVING labor on 5 REPEAT repairs, PLUS water and fuel, while prolonging the life of SCARCE fixtures.

PAT'D.
"EASY-TITE"
FAUCET WASHERS



...a modern laboratory triumph, are compounded from du PONT NEOPRENE (tested up to 300°F.) instead of rubber—to withstand DESTRUCTIVE HEAT common in present-day superheating water systems — that formerly broke down washer's structure.

Built like a tire with fabric re-inforcement **they resist the grinding, closing squeeze that SPLIT and MUSH ordinary washers out of shape... causing LEAKS.**

Through combining NEOPRENE and FABRIC RE-INFORCEMENT they OUTWEAR ordinary washers 6-to-1 on hot or cold FAUCETS—thus you slash water, fuel and labor costs.

THE NEW 'SEXAUER' CATALOG



Edition G, just out, pictures over 2500 TRIPLE-WEAR plumbing REPAIR parts and Pat'd. Precision Tools. It's today's accepted buying guide for discriminating purchasing and maintenance personnel among thousands of top PLANTS, INSTITUTIONS and GOVT. AGENCIES that rely on SEXAUER repair materials. *Send for your copy today!*

Then too, there's a SEXAUER TECHNICIAN within quick call from coast-to-coast, who offers a special SURVEY service that sets up a schedule of the exact replacement parts required for your particular plumbing fixture regardless of make or age and *without obligation.*

A postcard will bring him and your NEW Catalog promptly.

J. A. SEXAUER MFG. CO., INC., Dept. AP 72
2503-05 Third Avenue, New York 51.

as advertised in THE SATURDAY EVENING POST

SEXAUER
WORLD'S LEADING SPECIALISTS IN PLUMBING AND HEATING REPAIR PARTS



The green light is on!

Now you can place orders for P-K Self-tapping Screws, Socket Screws and other P-K products with good assurance of prompt delivery.

Stocks of the more popular sizes are being rapidly built up, and deliveries of production quantities are steadily improving. At your P-K Distributor's you'll find more and more of the familiar blue P-K packages on the shelves.

Even on unlisted sizes, or listed sizes temporarily out of stock, you may be surprised at the early deliveries we can now quote. So, send in your inquiries . . .

Check with P-K first . . .

Once again, you can get the top-quality, trouble-free P-K Screws you *want*, *when* you want them. Parker-Kalon Corporation, 200 Varick St., New York 14.

Remember—

IF IT'S P-K IT'S O.K.

TRADE MARK REG. U.S. PAT. OFF.

PARKER-KALON®

The Original **SELF-TAPPING SCREWS**

Cold-forged **SOCKET SCREWS**

AND OTHER FASTENING DEVICES



AMERICAN makes good STOCK gears

...conveniently available to you through good distributors

You'll find American STOCK Gears meet every requirement for high quality, accurate tooth contour, smooth, quiet performance and long life.

Complete line includes Spur Gears . . Racks . . Change Gears . . Internal Gears . . Miter Gears . . Bevel Gears . . Ratchets and Pawls . . Spiral Gears . . Worms and Worm Wheels.

Order from the nearest of these authorized distributors

ALABAMA
BIRMINGHAM
Industrial Supplies, Inc., 613 North 9th St.
CALIFORNIA
LOS ANGELES
Marwood Ltd., 320 E. Third Street
SAN FRANCISCO
Marwood Ltd., 357 Ninth Street
CONNECTICUT
BRIDGEPORT
H. J. Behn & Co., Inc., P.O. Box 1780
ATERBURY
WCharles A. Templeton, Inc.
GEORGIA
ATLANTA
Industrial Service Company
P. O. Box 128, Station E.
ILLINOIS
CHICAGO
Chain Sales, Inc., 640 West Washington Blvd.
Dodge-Chicago Industrial Eq. Co.
2450 So. Wabash Ave.
Patlyn Gears & Trans. Co., 2456 W. 38th Street
ROCKFORD
Rockford Tool & Transmission Co., 802 Broadway
INDIANA
INDIANAPOLIS
Indianapolis Belting & Supply Co.
30-36 So. Capitol Avenue
SOUTH BEND
Central Equip. Co., 921 South Main St.
IOWA
DAVENPORT
Industrial Engineering Eq. Co.
122-124 East Fourth Street
KENTUCKY
LOUISVILLE
Bearings, Inc., 501 W. Main Street
LOUISIANA
NEW ORLEANS
Industrial Power Trans. Co.
1117 La Salle St.
MASSACHUSETTS
BOSTON
Park Gear & Machine Inc.
3368 Washington Street
SPRINGFIELD
Stacy Supply Co., 43 Taylor Street
MICHIGAN
DETROIT
DuComb Company W. C., 6335 East Palmer Ave.
GRAND RAPIDS
State Supply Company, 751 Grandville Ave. S. W.
KALAMAZOO
Robert M. Sorlie Co., 419 East Dutton St.
SAGINAW
B-H Supply Co., 405 Ames St.
MINNESOTA
MINNEAPOLIS
Baldwin Supply Co., 1329 South Sixth Street
MISSOURI
KANSAS CITY
Noelling Steel Sales Corp., 1517 Cherry Street
ST. LOUIS
Te-Co., Inc., 801 No. Second Street
NEW JERSEY
NEWARK
Dodge Newark Supply Co., Inc.
281 Market Street
TRENTON
Wiley-Hughes Supply Co., Inc.
Spruce St. Corner New York Ave.
NEW YORK
BROOKLYN
Acme Leather Belting Co., 578 Broadway
Petty & Wherry, Inc., 333 Atlantic Avenue
BUFFALO
Buffalo Rubber & Supply Inc., 37 Carroll St
JAMAICA
Industrial Bearing & Supply of L. I.
91-12 143rd Street
LOCKPORT
Ward Bros. Mill Supply Co., 64 Market Street
LONG ISLAND CITY
Beardslee Transmission Equipment Co.
41-12 29th Street Bridge Plaza North
NEW YORK
Cangro Transmission Co., 388 Broome Street
Fisher Tool Co., 226 La Fayette Street
TROY
Troy Belting & Supply Co.
6-8 Grand St.
UTICA
Millar & Sons Co., Charles
NORTH CAROLINA
CHARLOTTE
Precision Gear & Mach. Co., Inc.
2001 N. Tryon St.
OHIO
AKRON
Mahoning Valley Supply Co.
1001 South High St.
CANTON
Mahoning Valley Supply Co.
1253 Dueber Ave., S. W.
CLEVELAND
J. A. Shomer, 11201 Berea Rd.
CINCINNATI
Wirthlin-Mann Co., 1930 Dana Ave.
DAYTON
Dills Supply Co., 200 Wayne Avenue
TOLEDO
G & I Supply Co., 615 Phillips Ave.
YOUNGSTOWN
Mahoning Valley Supply Co.
704 Youngstown-Poland Road
OKLAHOMA
TULSA
Weiss Supply Company
216 East Third St.
OREGON
PORTLAND
Marwood Ltd.
209 S.W. First Ave.
PENNSYLVANIA
PITTSBURGH
Harris Pump & Supply Co.
Brady & Sidney Sts., S. S.
TENNESSEE
MEMPHIS
The Riechman Crosby Co., 223-29 So. Front St.
NASHVILLE
Tenn. Machinery Co., 113 3rd Ave. S.
TEXAS
DALLAS
Bearing, Chain & Supply Co.
2826 Elm St.
HOUSTON
American Gear & Supply Co., 3438 Leeland Ave.
VIRGINIA
RICHMOND
Apex Machine Mfg. Co., 216 So. Fifth Street
WASHINGTON
SEATTLE
Marwood Limited, 1714 First Avenue South
WISCONSIN
GREEN BAY
Libert Bearing Co., 324 No. Roosevelt St.
MADISON
Richard E. Ela Co.
744 Williamson St.
MILWAUKEE
American Machinery Co., 453 No. Plankinton

Write us for a free copy of Specification Catalog



asg **AMERICAN STOCK GEAR** division
PERFECTION GEAR COMPANY • HARVEY, ILLINOIS

INDUSTRIAL DEVELOPMENTS

McLaurin-Jones Company, Brookfield, Mass., has opened its new paper processing plant at Homer, La. The new mill, which will be the firm's primary southern producer of ordnance wrap and polyethylene coated paper, will also manufacture a complete line of gummed sealing tapes. Construction of the plant allows for installation of equipment to produce flat and gummed coated papers.

Olin Industries, Inc., East Alton, Ill., has acquired Ramset Fasteners, Inc., Cleveland, O., one of the country's oldest manufacturers of powder-actuated industrial tools.

Hercules Powder Company will build its new hydrocarbon chemicals plant on a 275-acre tract ner Gibbstown, N.J., with construction starting late this year, or early next year. The plant, which will represent an investment of close to $8,000,000 will produce phenol, para-cresol, acetone, and cymene alcohols.

Continental Can Company has announced that operations of its plastics division at Cambridge, Ohio, will be discontinued on August 15.

Atlantic Steel Company has put into operation the Southeast's largest electric furnace, at Atlanta, Ga. The new 60-ton furnace, with its annual capacity of 112,000 tons of steel will increase the company's output by more than 50%.

Pittsburgh Standard Conduit Company is the new name of the former Enameled Metals Company, Pittsburgh, Pa. The company manufactures rigid steel conduit and allied products.

Leeds & Northrup, manufacturer of measuring instruments, automatic controls and heat-treating furnaces, has purchased a 125-acre tract of land at North Wales, Pa. The company contemplates moving to the new location certain operational or laboratory units from its main plant in Philadelphia.

Celanese Corporation of America has established a new Textile Division for operating all textile activities of the company. K. C. Loughlin, vice-president has been named to the new position of general sales manager.

Fiber Glass Division, Libbey-Owens-Ford Glass Company, Toledo, O., has purchased the "Garan Finish" and acquired certain technical services of Dr. Robert Steinman, president of the Garan Chemical Corp., Los Angeles, Calif. The finish is a surface treatment applied to glass fibers to give them superior characteristics for reinforcing plastics.

(*Please turn to page* 264)

RHEEMCOTE

lithographed 55-gallon drums now lead the D-X package parade





Long a familiar symbol on smaller containers, the D-X trademark is now displayed with new effectiveness on 55-gallon Rheemcote drums. Lithographed in black, red and cream, these large containers bring family identification to the Mid-Continent Petroleum Corporation's entire container line.

Your trademark and products, too, can be presented dramatically on Rheemcote containers. The result will be a prestige-building, sales-building impression on new and prospective purchasers.

Rheemcote containers can be lithographed in any design, including halftones, and in any number of colors. The high gloss finish is tough, long-lasting. Interiors can be roller-coated with special protective lacquers if required. For complete information on this powerful new advertising medium, write RHEEM.

Sell as you Ship with Rheemcote drums!

Rheem

WORLD'S LARGEST MANUFACTURER OF STEEL SHIPPING CONTAINERS

RHEEM MANUFACTURING COMPANY · **General Sales Offices, 570 Lexington Avenue, New York 22, N. Y.**

Manufacturing Plants in 22 Cities Around the World — PLANTS AND OFFICES: BURLINGTON, LINDEN, NEW JERSEY • CHICAGO, ILL. HOUSTON, TEXAS • NEW ORLEANS, LA. • NEW YORK, N. Y. • NEWARK, RICHMOND, SAN FRANCISCO, SAN PABLO, SOUTH GATE, CALIF. • SPARROWS POINT, MD. FOREIGN PLANTS: BRISBANE, FREMANTLE, MELBOURNE, SYDNEY, AUSTRALIA • BRISTOL, UNITED KINGDOM • BUENOS AIRES, ARGENTINA • HAMILTON ONTARIO • LIMA, PERU • RIO DE JANEIRO, BRAZIL • MILAN, ITALY • SINGAPORE

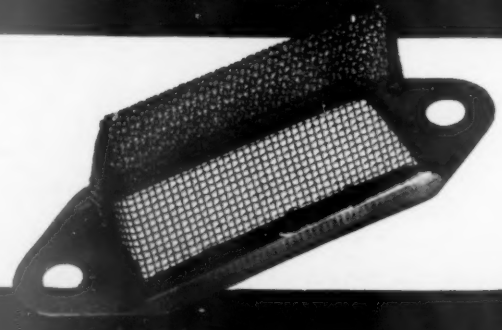
© 1952 RHEEM MFG. CO.

NEWARK

Fabricated
WIRE CLOTH PARTS



Available — a well-equipped plant with highly experienced fabricators.



Available — mesh cloth and space cloth made in our own plant.



All under one roof

Do you require parts made with one or more pieces of mesh cloth or space cloth — anything from 4 inch openings down to 325 mesh (105,625 holes/sq. in.)?

Our experienced fabricating service should be of value. We are in position to handle volume order business and, if desired, will be glad to help in designing the part requiring the metallic cloth. We know how to insert and fasten metallic cloth to get best results. We carry many standard sizes of wire cloth in stock. We have ample loom facilities to weave special cloths if necessary. We can handle any wire of any malleable metal.

This fabricated parts division of our business has grown by leaps and bounds. We have had many repeat orders. It could be due to the quality of wire cloth used and the care with which this cloth is assembled into the parts being fabricated.

NEWARK *for* ACCURACY

Ask for General Catalog "D"

Newark Wire Cloth COMPANY

351 VERONA AVENUE • NEWARK 4, NEW JERSEY

Philadelphia 3, Penna.	San Francisco, Calif.	Chicago, Ill.	New Orleans, La.	Los Angeles, Calif.	Houston, Texas
1311 Widener Bldg.	3100 19th St.	20 N. Wacker Dr.	520 Maritime Bldg.	1400 So. Alameda St.	P. O. Box 1970

Artisan Metal Works, Cleveland, O. has established a new subsidiary company, known as Clevecote, Inc. The concern will specialize in the coating of metal surfaces with a silicone glaze.

The Sponge Rubber Products Company, Shelton, Conn., has completed construction of companion facilities for the prodution of cellular rubber at Waterville, Quebec, Canada. The plant will produce "Spongex" cord, sheets, die-cut shapes and custom molded forms. "Cell-Tile", cellular rubber having non-interconnecting cells, will be produed in soft and hard board forms. The plant will also produce continuous sheet stock.

General Eletric Company will build a new multi-million-dollar transformer manufacturing plant at Rome, Ga. Construction will begin at once and will be



Sketch of New G.E. Plant

completed by mid-1953. Transformer ratings to be manufactured at the plant will range from 300 kilivoltamperes to a maximum of 7500 kilivoltamperes, 69 kilivolts and below.

The Carborundum Metals Company, Inc., a new subsidiary of The Carborundum Company, Niagara Falls, N.Y., has signed a contract with the Atomic Energy Commission for the production of zirconium and hafnium metal.

Vascoloy-Ramet Corporation has broken ground for the first building in a major expansion and improvement program at Waukegan, Ill. Although the immediate objective is to increase productive capacty by 50%, the company has a broader objective of mechanizing and streamlining operations, saving time, speeding deliveries and reducing manufacturing costs.

Hydraulic Equipment Company, Cleveland, O., is now operating as Hydreco, a division of The New York Air Brake Company, instead of as a subsidiary of that company. There has been no change in the titles or functions of officials.

Kewanee Boiler Corporation, Kewanee, Ill., and Ross Heater & Manufacturing Co., Inc., Buffalo, N.Y., two divisions of American Radiator & Standard Sanitary Corporation, have combined to form a new company, Kewanee-Ross Corporation.

Vonnegut Moulder Corporation, Indianapolis, Ind., announces that with the retirement of Anton Vonnegut, the business of the company has been taken over by its present personnel and will be known as the Grinding and Polishing Machinery Corporation.

(*Please turn to page* 266)



HERE COMES HELP!

from your nearby Reynolds Aluminum distributor

Reynolds is putting forth every effort to ease your aluminum-buying problems. To meet the growing demand Reynolds Metals Company and other U. S. producers have already started on another vast expansion program which will greatly increase the country's aluminum production capacity.

To meet your immediate problems the nearby Reynolds distributor listed below is doing his level best to fill orders from limited stocks.

You can also count on his assistance and guidance in selecting temporary alternate materials. He will apply all of his experience and energy to helping you out. Present your procurement problems to him. Now as always he will give you the kind of service you need and want.

YOUR REYNOLDS DISTRIBUTOR IS LISTED BELOW

ALABAMA
Arnold-Brown Metals & Supply Co., Birmingham
Southern States Iron Roofing Co., Birmingham

CALIFORNIA
Clingan & Fortier, Inc., Fresno, San Francisco and Vernon (ingot also)
Braice Metals, Inc., Los Angeles
Tay-Holbrook, Inc., San Francisco
Union Hardware & Metal Co., Los Angeles
United States Steel Supply Div., Los Angeles
Western Metal Supply Company, San Diego

COLORADO
Marsh Steel Corporation, Colorado Springs and Denver
Salt Lake Hardware Co., Grand Junction

CONNECTICUT
American Steel & Alloys Corp., Hartford

DISTRICT OF COLUMBIA
Lyon, Conklin & Co., Inc., Washington

FLORIDA
Horne-Wilson, Inc., Jacksonville, Miami, Orlando and Tampa
Southern States Iron Roofing Co., Jacksonville, Miami and Orlando

GEORGIA
Southern States Iron Roofing Co., Albany, Atlanta, Augusta and Savannah

IDAHO
Salt Lake Hardware Co., Boise

ILLINOIS
J. G. Braun Co., (Architectural only) Chicago
Silverstein & Pinsof Inc., (Ingot only) Chicago
United States Steel Supply Div., Chicago
Benjamin Wolff & Co., Chicago

INDIANA
Hubbell Metals Inc., Indianapolis

KENTUCKY
Southern States Iron Roofing Co., Louisville

LOUISIANA
Southern States Iron Roofing Co., New Orleans

MARYLAND
Clendenin Bros., Inc., Baltimore
Lyon, Conklin & Co., Inc., Baltimore

MASSACHUSETTS
Bay State Refining Co., (Ingot only) Chicopee Falls
Arthur C. Harvey Company, Boston
Pratt & Inman, (Wire, rod, bar, structurals) Worcester

MICHIGAN
Kasle Steel Corporation, Detroit
McDonnell Bros., Inc., (Architectural only) Detroit
Milton A. Meier Co., (Ingot only) Detroit and Grand Rapids

MINNESOTA
Vincent Brass & Copper Co., Minneapolis

MISSOURI
Hubbell Metals Inc., Kansas City and St. Louis
Marsh Steel Corporation, North Kansas City

NEW JERSEY
Edgcomb Steel Corporation, Hillside

NEW YORK
J. G. Braun Co., (Architectural only) New York
Edgcomb Steel Corporation, Hillside, N. J.
Rochester Smelting & Refining Co., (Ingot only) Rochester

NORTH CAROLINA
Southern States Iron Roofing Co., Raleigh

OHIO
The Atlas Metal Co., (Ingot only) Cleveland
G. A. Avril Smelting Corp., (Ingot only) Cincinnati
The Hamilton Steel Co., Cleveland
Metcal Manufacturing & Supply Co., Cincinnati
Verys Brothers, Inc., Columbus

OKLAHOMA
Vinson Supply Co., Tulsa

OREGON
Woodbury & Company, Coos Bay, Eugene, Medford and Portland

PENNSYLVANIA
Athos Steel Service Co., Philadelphia
Levinson Steel Sales Company, Pittsburgh
Merchant & Evans Co., Philadelphia
Potts-Farrington Company, Philadelphia

SOUTH CAROLINA
Southern States Iron Roofing Co., Columbia

TENNESSEE
Southern States Iron Roofing Co., Memphis and Nashville

TEXAS
Moncrief-Lenoir Mfg. Co., Dallas, Harlingen, Houston, Lubbock, San Antonio and Temple
Vinson Supply Co., Dallas, Odessa and Snyder

UTAH
Salt Lake Hardware Co., Salt Lake City

VIRGINIA
Southern States Iron Roofing Co., Richmond

WASHINGTON
Joseph T. Ryerson & Son, Inc., Seattle and Spokane
Clingan & Fortier, Inc., Seattle

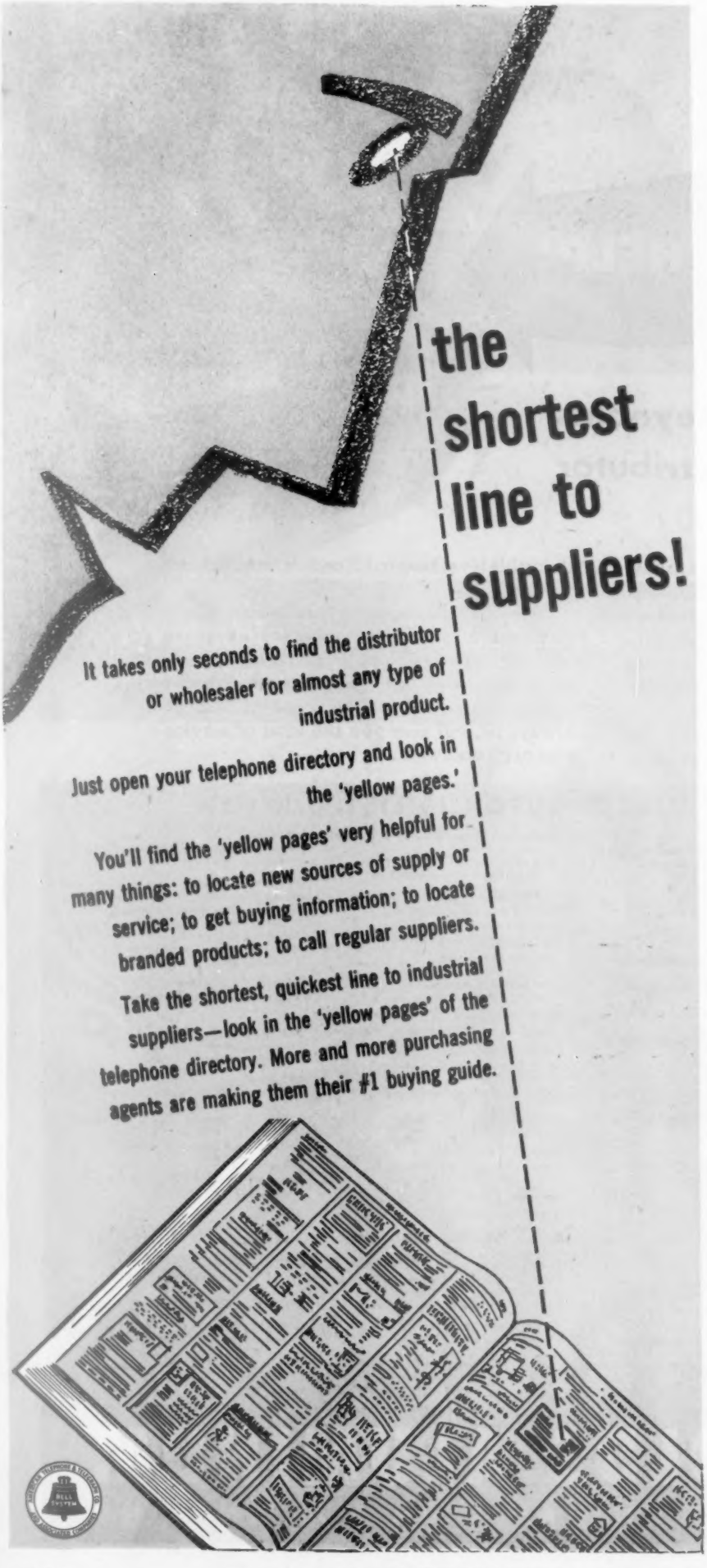
WISCONSIN
Benjamin Wolff & Co., Milwaukee

LOOK UNDER "ALUMINUM" IN YOUR CLASSIFIED TELEPHONE DIRECTORY

REYNOLDS METALS

REYNOLDS ALUMINUM

MODERN DESIGN HAS ALUMINUM IN MIND



Speer Carbon Company, Saint Marys, Pa., and its subsidiaries, Jeffers Electronics, Inc., DuBois, Pa.; International Graphite and Electrode Corporation, Niagara Falls, N. Y.; and Speer Resistor Corporation, St. Marys, Pa., have consolidated into one company, the Speer Carbon Company. Headquarters are at Saint Marys. The various subsidiaries will now operate as divisions of the Speer Carbon Company.

Apex Smelting Company, Chicago, Ill., has announced that its wholly owned subsidiary, Apex Metal Products Corporation of Cleveland, has acquired an exclusive license for the continuous casting of aluminum and all other non-ferrous metals under the Goss patents. The company has also reported that it is constructing a commercial pilot plant in the Pacific Northwest. Using clay as a raw material, this plant will produce intermediate alloys containing aluminum and silicon.

✦ ✦ ✦

INSPECTION PERSONNEL REDUCED, PRODUCTION UPPED 25%

An aircraft manufacturer reports unusual advantages in time and personnel saving by the use of Turco Dy/Chek, the dye penetrant method of flaw location, for inspection of single pass welds on light gauge aluminum ducts. The previous inspection method required a separate inspection area, two highly-trained inspectors and four assistants. Inshop handling costs were high because parts had to be moved to the inspection area, and thence back to production or rework.

This company has now established Dy/Chek inspection station in welding department, thus eliminating excessive handling. Adjacent to the station, are rework bench and cementing booth to

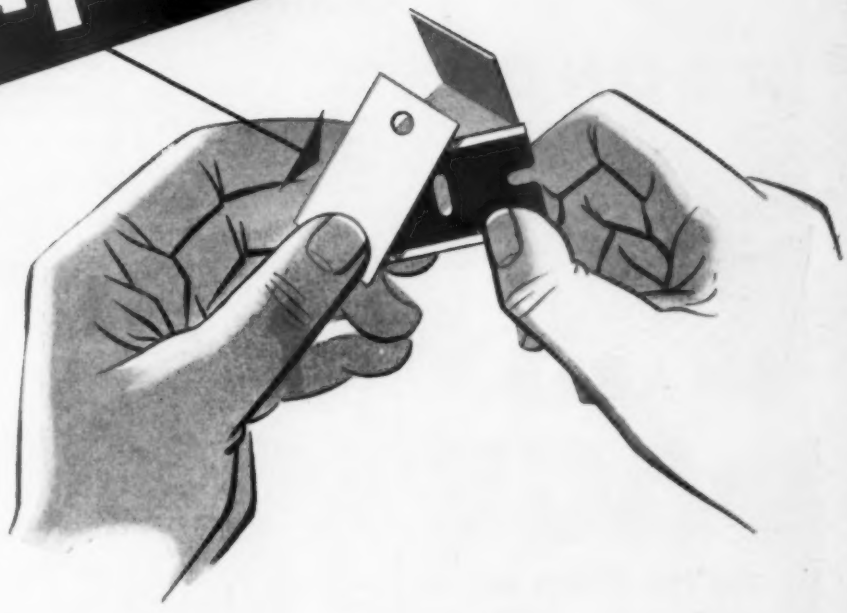


handle rejected welds. The dye penetrant is applied to the inside of ducts, and developer to outside, dye being pulled through instanteously with minimum "dwell" time. The manufacturer reports that bottlenecks have been completely eliminated. Now, using only two employees, inspections have been jumped to 90 per hour. The approximately 5% defective ducts are quickly withdrawn from the flow of work and routed to rework welding or cementing. The approximately 95% acceptable ducts pass

(*Please turn to page* 270)

it's paper

...BUT IT STOPS RUST



The delicately honed edges of fine razor blades are often protected by a band of Riegel Paper . . . a paper that's quite out of the ordinary because it combines strength and easy formability with special anti-tarnish properties. It is carefully processed to eliminate all traces of the corrosive salts and the sulphur found in ordinary papers.

This is just one of hundreds of interesting examples of Riegel's ability to make paper for almost any need. We now produce more than 600 grades . . . many with properties that would surprise you. Next time you find a little piece of stiff tan paper around a new razor blade, let your imagination wander. What can a *special* paper do for *you*? Write to Riegel.

RIEGEL PAPER CORPORATION
P. O. Box 170 · Grand Central Station · New York 17, N. Y.

Riegel

• TAILOR-MADE PAPERS FOR INDUSTRIAL USE •

an ACCO product WIRE

ROUND

FLAT OR SHAPED

PAGE

makes them all...

LOW CARBON
HIGH CARBON
STAINLESS
SPECIAL ALLOY
ARMCO IRON

YOU draw the Shape
—Page can draw the Wire

Tell us the way *you* want it. We'll follow *your* specifications.

Cross-sectional areas up to .250" square; widths up to ⅜"; width-to-thickness ratio not to exceed 6 to 1.

Wire or Write Today

PAGE WIRE

ACCO

PAGE STEEL AND WIRE DIVISION
AMERICAN CHAIN & CABLE

Monessen, Pa., Atlanta, Chicago, Denver, Detroit, Los Angeles, New York, Philadelphia, Portland, San Francisco, Bridgeport, Conn.

(*Continued from page 268*)

without delay to the next fabrication step. Further information in regard to the Dy/Chek system will be furnished by Turco Products, Inc., Terminal Annex 2649, Los Angeles 54, Calif.

BROACHING SAVES $2112 MONTHLY

Two milling machines and two operators per shift, two shifts per day, were required to produce the rack teeth and finish the jaw face on 8000 movable wrench jaw gorgings. Replacing the milling operation with broach setup, manufacturer is now producing the same number of parts with one operator, one



machine, on one shift per day. Savings in labor alone amount to $2112. monthly. Original tool cost for the broaching setup was lower and the cost of tool maintenance is materially reduced. Further details are available from the Detroit Broach Co., 20201 Sherwood Avenue, Detroit 34, Mich.

OIL CONSUMPTION REDUCED 50%



A manufacturer of screw machine products was having difficulty account oil running out of bearings, and further, oil did not adhere to the guides for the reciprocating die holder. On several occasions the main bearings overheated and seized. In each instance four day's downtime resulted, costing a large amount for labor and 30% in bolt production. Also, oil losses were excessive, and maintenance crews had to put in extra time keeping floors clean and safe. Manufacturer turned to Suntac oil, product of the Sun Oil Co., Philadelphia. In the 18 months that have elapsed production losses account in adequate lubrication have been nil, downtime has been eliminated, and consumption of oil has been cut in half. Savings on oil and maintenance are placed at $3,000.

(*Please turn to page 272*)



HAND CLEANERS

Skilled hands are a valuable asset to management, as well as an important responsibility of it. Mione Hand Cleaners can insure that asset by helping to share the responsibility for keeping skilled hands in prime working condition.

WORKERS like the quick-lathering, gentle-scrubbing, easy-rinsing action of Mione. And its very definite skin conditioning value.

MANAGEMENT likes the safe, sanitary, efficient, trouble-free Mione features, plus its economy per pound, low cost per scrub-up, and the basic economy of skilled hands always at top productivity.

YOUR SUPPLIER of washroom needs can give you full particulars about Mione so that you, too, can benefit from the know-how gained from 40 years of making nothing but better and better soap for the hands.

WRITE US FOR THE NAME OF THE MIONE SUPPLIER IN YOUR AREA

Mione
MANUFACTURING COMPANY
Makers of famous hand soaps for 40 years
COLLINGDALE PENNSYLVANIA



LOOKING FOR

WAYS TO CUT COSTS—
AND SPEED ASSEMBLIES?

THEN LOOK CAREFULLY AT THE

TWIN-fast WOOD SCREW

REG. U. S. PAT. OFF.

Save assembly time
— twin threads drive twice as fast.

Save on screws
— greater holding power of TWIN-fast often means fewer or smaller sized screws can be used.

Save operations
— relieved shank diameter often eliminates necessity for drilling shank clearance hole.

Improve product
— tighter assembly and freedom from fractures and ruptures cut down rejects.

For anyone assembling plastic to wood, metal to wood or wood to wood, the TWIN-fast Screw adds up *fast* to lower production costs.

TWIN-fast
Reg. U.S. Pat. Off.
Pat. Nos. 2,314,390 - 2,314,391 - 2,373,878 - 2,373,948 - 2,483,166
The Faster Driving . . . Cost Cutting Fastener



Furnished in either Slotted or Phillips Recessed Heads.

Write to any of the firms listed to learn how this revolutionary new screw can save you money!

American Screw Company
Willimantic, Conn.

Blake & Johnson Company
Waterville 48, Conn

Central Screw Company
Chicago, Illinois, and
Keene, New Hampshire

Continental Screw Company
New Bedford, Mass.

National Screw & Mfg. Co.
Cleveland, Ohio, and
Los Angeles, Calif.

Stronghold Pacific Corp.
Downey (Los Angeles), Calif.

Stronghold Screw Products, Inc.
Chicago, Ill.

Southington Hardware Mfg. Co.
Southington, Conn.

Townsend Company
New Brighton, Penna.

Please send copy of the new TWIN-fast bulletin.

Name_____

Firm_____

Address_____

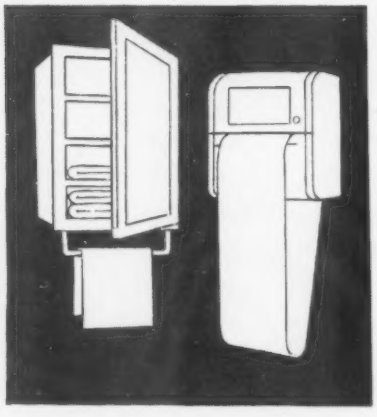
City_____ Zone_____ State_____

COBWEBS IN THE THINK TANK?



Go wash your face!





Call it weariness, mental fatigue . . . or just the time of day . . . when you find yourself floundering on the job and want to wake up—GO WASH YOUR FACE. You'll be surprised how quickly your tired muscles and jangled nerves respond to soap and water and a rub with a fresh, absorbent cotton towel.

COTTON TOWEL SERVICE

No investment required. Get complete service on a low-cost basis. Under "Towel Supply Service" or "Linen Supply Service" in the telephone book, you'll find your suppliers—call them today!

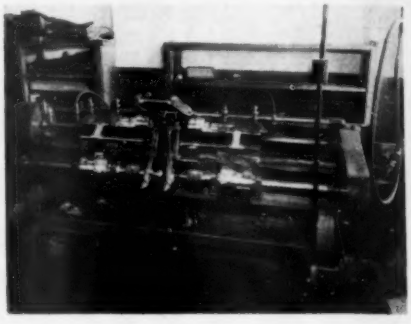
You can rub and rub to your heart's content—even with a heavy beard, cotton towels will not shed or leave a trail of residue on your skin.

WHAT PICKS YOU UP, PICKS UP YOUR EMPLOYEES. When you provide clean cotton towels, workers get added benefits from their rest periods. Watch efficiency, production, and morale climb when "Cotton Fresh-Up" is on the job.

Linen Supply Association of America
and NATIONAL COTTON COUNCIL
22 WEST MONROE STREET, CHICAGO 3, ILLINOIS

DOUBLE END AUTOMATIC DOES WORK OF 8 HAND MACHINES

Brass Company specified Style TM taper threading H&G insert chaser die heads made by The Eastern Machine Screw Corp., New Haven, Conn., for new automatic. The Style TM is shown as a three-dimensional die head—diameter, length and taper being controlled by cams. Taper is controlled by cams; chasers recede at pre-set rate. This new



automatic threader produces 2400 nipples per hour—8" long, 7/8" in diameter, with taper-cut threads on both ends. A conveyor is used to supply the machine and take the finished nipples away. Elimination of eight hand screw machines and operators makes for big savings in time, floor space and costs.

SAVE $4,000 ON TOOLING



The Metal Spinning Division of the Phoenix Products Co., 4715 No. 27th St., Milwaukee, Wis., states that by making the motor housing in the manner shown in the accompanying illustration, a saving of approximately $4,000. was effected on the tooling, and parts were made in a couple of weeks instead of two months' time that would have been required for making up the draw tools. For the limited quantities involved this method was by far the most economical. The housing was made by welding spun and rolled sections together to form the complete housing. One shape of spinning was used. Air scoop was made by butt welding two spinnings and sawing into sections. Parts were assembled and welded including flat spun retaining ring and expanded metal ventilating grid.

(*Please turn to page 274*)

SUPERIOR ALUMINUM EXTRUSIONS

aluminum extrusions



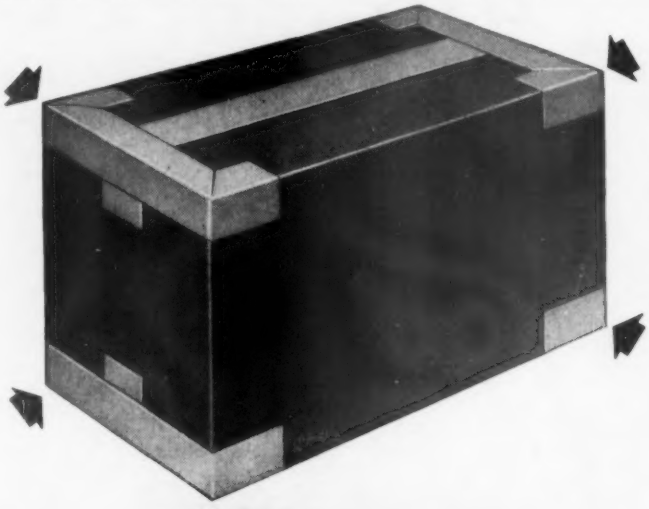
- More than 400 shapes to choose from.
- Special shapes engineered to your specifications.
- Dependable delivery promises.
- Use coupon, wire, phone or write.
- Advise quantity, style, sizes.
- Prompt answer to your inquiry.



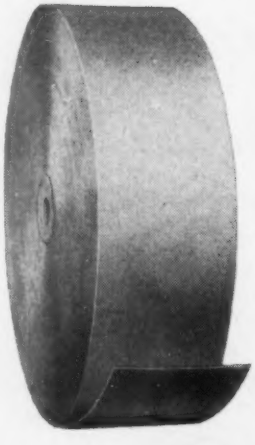
YOUNGSTOWN MANUFACTURING, INC.
66-76 South Prospect Street
Youngstown 6, Ohio

YOUNGSTOWN MANUFACTURING, INC.
66-76 SOUTH PROSPECT STREET
YOUNGSTOWN 6, OHIO

NAME_____
FIRM_____
CITY_____
STATE_____



Gummed tape
the only closure that
PROTECTS CARTON CORNERS



During shipment, the exposed *corners* of your carton usually take the most punishment. Your carton literally "leads with its chin." When you seal with gummed tape, however, you bond a reinforcing thickness of heavy kraft over all eight corners. This tough, rub-resistant armor helps absorb the shocks of shipping. It never interferes with the natural resiliency of the corrugated board. Every seam is tightly sealed against dirt. Gummed tape gives protection where you need it most.

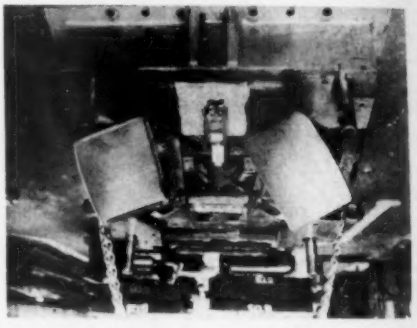
ORANGE CORE
Copyr. H. P. & P. Corp.
GUMMED SEALING TAPE

YOUR BETTER BUY AMONG STANDARD TAPES

When your needs are for a standard grade sealing tape—specify Orange Core. It is the product of a completely integrated mill where every step of its manufacture is controlled by Hudson. There are no irksome variations in performance. That's why Orange Core is the world's largest selling gummed tape.

HUDSON PULP & PAPER CORP., Dept. 212, 505 Park Ave., New York 22

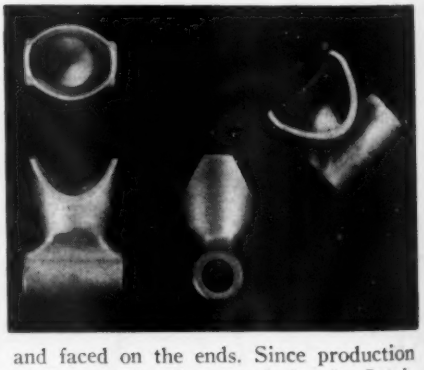
RENEWS LIFE OF WORN DIE WITHOUT REMOVING PART



This die is used for flanging panels for television cabinets. Vertical movement of pyramid forces the inner die sections out to form the blank. The original worn boiler plate pyramid was reground and treated with hardening compound made by Doughty Laboratories, Inc., 500 Fifth Ave., New York, for hardness. Worn section was heated with torch, compound applied, reheated and quenched with water. After hardening, 256,000 panels were turned out without appreciable further wear, according to the Doughty Company.

FROZEN MERCURY PRECISION CASTING CUTS COSTS, SAVES MATERIAL

A cost saving of 25% and a saving of two-thirds of a pound of stainless steel on each aircraft engine exhaust manifold support was made possible by precision casting method which employs frozen mercury as a pattern. The supports are used by Solar Aircraft Company in exhaust assemblies built for Pratt & Whitney R-4360 engine. This support was formerly produced from a sand casting which was completely machined on the exterior cone surfaces. The cylindrical boss was drilled, reamed,



and faced on the ends. Since production of the part has been made by the Intricast process—tradename for the frozen mercury pattern method, used by Thompson Products Inc., 23555 Euclid Avenue, Cleveland, Ohio, the conical cup is used as cast. The boss hole is cored and only reaming and facing of ends are required to hold the close dimensional accuracy necessary. Under present conditions the savings of stabilized chromium-nickel stainless steel are of equivalent or greater importance than the cost savings.

(*Please turn to page* 276)

Don't Let Copper Restrictions Stump You



IRON BASE

OILITE

GIVES YOU TOP BEARING PERFORMANCE

- Iron Oilite is an excellent heavy duty bearing material.
- It is a sturdy material, and the load carrying capacity is increased by the hydraulic cushion of the trapped oil with which the bearing metal is impregnated.
- Iron Oilite bearings provide the acme in lubrication; a continuous, unbroken, oil film, on the bearing surfaces.
- Iron Oilite is available in all types of bearings and over a broad range of sizes.
- Iron Oilite is only one of the famous Oilite family of products created by Oilite powder metallurgy.

AMPLEX MANUFACTURING COMPANY
Subsidiary of Chrysler Corporation
Detroit 31, Michigan





FIELD ENGINEERS AND DEPOTS THROUGHOUT UNITED STATES AND CANADA

Oilite Products include:
BEARINGS, Finished Machine Parts, Cored and Solid Bars, Permanent Filters and Special Units in both **NON-FERROUS** *and* **FERROUS** *Metals*

COPYRIGHT 1952—THE CHRYSLER CORP.

The Greatest News For Electric Drill Users

PET TOOLS

SUPERDUTY PORTABLE ELECTRIC DRILLS

For Production—Maintenance—Construction Work



NEW

SUPERDUTY ¼" PORTABLE Electric Drills—Standard Duty, Heavy Duty, and Extra Heavy Duty Models; each available in 8 speeds, 500 to 5000 rpm. Choice of pistol or saw type grip. 48 styles and models.



NEW also Superduty ⅜" and ½" Drills

SUPERDUTY DRILLS OFFER

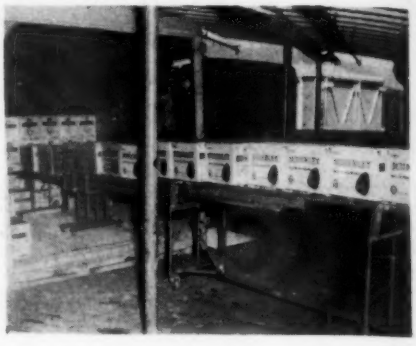
Reserve Power • Ball and Needle Bearings • Heat-treated, Precision-cut Gears • Compact, Streamline Design • Electronic Dynamic Balancing • Top Quality, Rugged Construction • Models and Styles to meet use requirements and operator preference.

All These Features *and at Lower Cost*

Ask your distributor, or write for complete details to
PORTABLE ELECTRIC TOOLS, INC.
343 West 83rd Street, Chicago 20, Illinois
In Canada: 369 Danforth Road, Toronto 13, Ontario

PET TOOLS **SUPERDUTY** Portable Electric Drills
for Production • Maintenance • Construction Work

CONVEYOR MAKES TRUCK LOADING JOB EASIER AND SAFER



Shipping men and foremen employed by Joseph S. Finch & Co., state that telescopic conveyor made by The Wilkie Co., 5520 Arch St., Philadelphia, makes their truck loading job easier and safer. The conveyor is 10 ft. long and can be extended 30 ft. into a truck and gradually shortened as the body of the truck is filled.

COOLANT COSTS CUT 30%



The Federal Machine & Tool Co., Long Island City, N. Y., reports 30 to 35 percent saving in coolant cost by the use of Powder'd Oil—a powder that is mixed with water, which operates cooler because of its unique refrigerating properties. Picture shows machinist putting the powder in coolant sump. It is made by Henry E. Sanson & Sons, Inc., 145 Quaker Ridge Road, Manhasset, N. Y.

COSTS CUT 65% WITH PLANETARY THREAD ROLLING MACHINE

Installation of planetary thread rolling machine by the Tru-Fit Screw Products Corp., Cleveland, resulted in the following benefits: The new machine requires only one-third the floor space required by conventional type machine to produce the same number of pieces per hour. The savings in manhours per thousand pieces is 65%, while the die cost is a constant 2½¢ per thousand compared to 1½¢ per thousand on reciprocating machine. This is felt to be a minor increase compared to the overall savings involved. In spite of extra

(*Please turn to page 278*)

Each Panelboard on this page is designed for ONE kind of job...

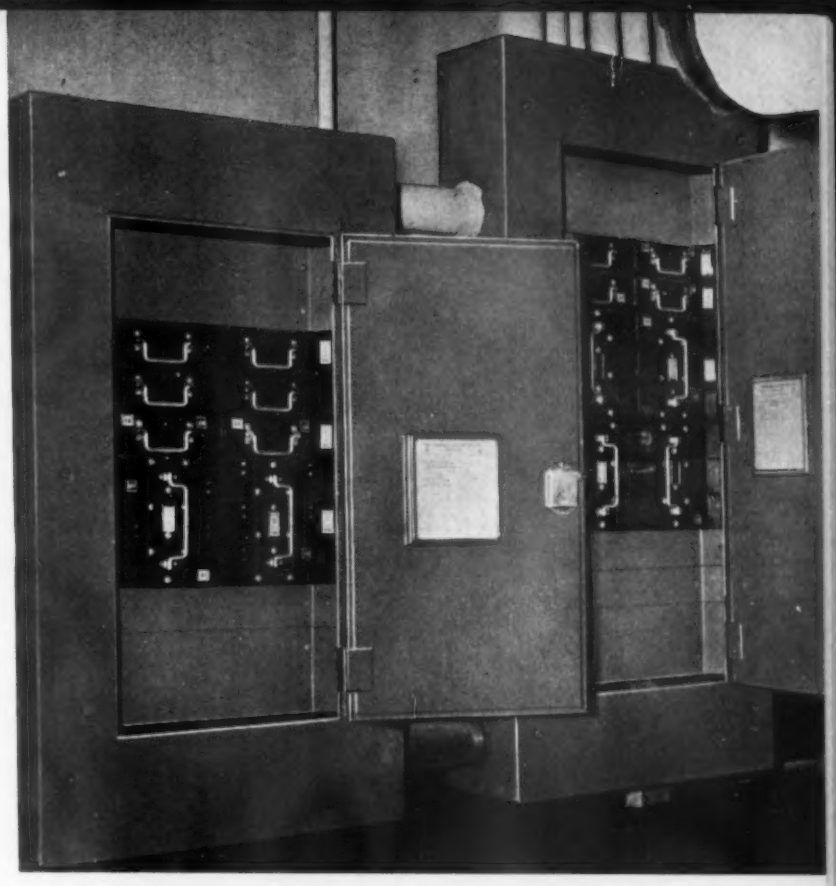
... the job that a "particular" kind of distribution circuit in your plant calls for.

Of course, we both know that your distribution circuits are much the same as those in other plants, but, when you come right down to it, you won't find very many electrical distribution circuits that are *exactly* the same.

To make sure you get the best panel for each application, Trumbull does two things:

1. Supplies enough *different* types of panelboards to cover every kind of service requirement.
2. Exactly matches the special combination of requirements you set up for each panel through *standardized* construction that permits fast but *individualized* assembly of components.

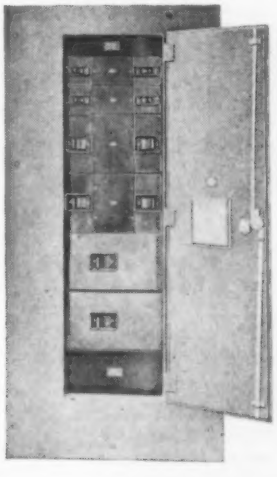
"Specially assembled" panels of the types shown on this page will exactly meet any distribution panelboard requirement you now have. Others will take care of all your lighter power and lighting requirements.



1. Two Trumbull Converti-Fuse Panelboards—the most compact distribution panelboards available. Branches: 30 to 400 amps. Service: 250 volts d-c, 600 volts a-c; single- or three-phase. Interchangeable sections and fuse clips.



2. A Trumbull Swing-Wa Panelboard—an ultra sturdy heavy-duty fusible panelboard with dead-front, hinged cover operation. Branches: 30 to 600 amps. Service: 250 volts d-c, 600 volts a-c; single- or three-phase. Circuits are convertible.



3. A Trumbull Convertible Circuit-Breaker Panelboard—versatile circuit-breaker-type assembly, *sectionalized* for maximum convertibility. Can include space for future circuits. Branches: 15-600 amps. Service: 250 volts d-c, 600 volts a-c.



4. A Trumbull ABH Circuit-Breaker Panelboard—uses same type circuit breakers as the "convertible" panel. Compactly designed to handle lighter loads. Branches: 15 to 50 amps. Service: 240 volts a-c single- or three-phase; 125/250 volts d-c.

Write for bulletin or check soon with your local Trumbull distributor.

TRUMBULL (T) ELECTRIC

DEPARTMENT OF GENERAL ELECTRIC COMPANY

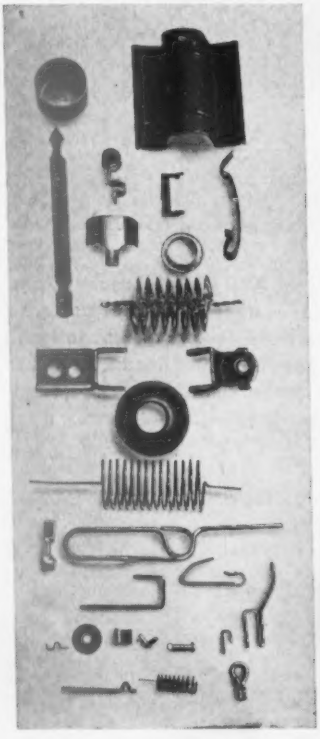
PLAINVILLE, CONN.



BUY AMERICAN...Tubular and Split Rivets...

Priced Right!

WIRE FORMS & Metal Stampings



High-speed, quality production with custom-made precision. Wire formed in any shape for every need.

IMMEDIATE CAPACITY FOR DEFENSE SUB-CONTRACTS

STRAIGHTENING & CUTTING
Perfect straight lengths to 12 ft.
.0015 to .125 diameter

WIRE FORMS
.0015 to .080 diameter

SMALL METAL STAMPINGS
.0025 to .035 thickness
.062 to 3 inches wide

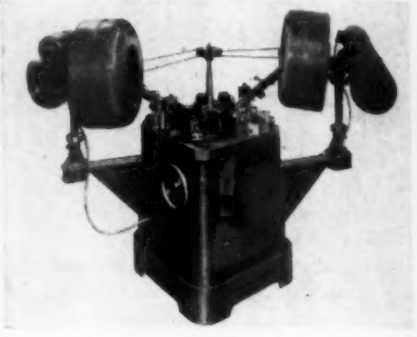
Specializing in Production of Parts for Electronic and Cathode Ray Tubes

Write for illustrated folder.
Send Blueprints or Samples for Estimate.

ART WIRE and STAMPING COMPANY
7 BOYDEN PLACE
NEWARK 2, N. J.

(*Continued from page 276*)

labor bonus, cost of screws run on the "Prutton" is 10.3¢ per thousand, as compared with actual cost of 23.5¢ on late type reciprocating machine rolling same



class of screws up to #10 diameter. Production on the new machine which is made by D. H. Prutton Machinery Co., 5925 W. 130th St., Cleveland, has averaged 18,000 pieces per hour.

ROTARY STRAIGHTENER SOLVES SMALL TUBE STRAIGHTENING PROBLEM



Problem in straightening steel tubing was solved by the Summerill Tubing Co., division of Columbia Steel & Shafting Co., Carnegie, Pa., by the installation of rotary straightener made by Mackintosh-Hemphill Co., Pittsburgh 3, Pa., for the specific task of handling steel tube ranging in O.D. from .156 to .437 in., at a production speed of 120 ft. per minute. This machine is credited with eliminating what was formerly a production problem. One man, instead of two, now works on 10 to 25 ft. lengths of this tube and with the full roll contact secures straightness and finish end to end better than required by commercial tolerances. Since guides are not required, tubing is not marked and production time is not lost to guide dressing.

(*Please turn to page 280*)

CLASSIFIED SECTION
SEE PAGE 316

WOULD YOU LIKE
LONGER LIFE
and FREEDOM
from BREAKDOWNS
IN YOUR SMALL ENGINES?

Specify

BENDIX

THE MOST TRUSTED NAME IN MAGNETOS

- ✓ Simplicity in design.
- ✓ Waterproof moulded coil.
- ✓ Lower operating cost.
- ✓ Minimum lubricating requirement.
- ✓ Light in weight.
- ✓ Higher voltage at starting speed.
- ✓ Constant spark over entire speed range.
- ✓ Compact and sturdy construction.



Whether you purchase a small engine for outboard, industrial or marine use, today's foremost consideration should be long life and trouble-free performance. Therefore, it will pay you well to insist on Bendix magnetos in the engine you select. For the basic design of Bendix magnetos assures quality performance for *every type* of small engine and *every pricing requirement.* Remember it pays to specify Bendix, the most trusted name in magnetos. Complete information available on request.

SCINTILLA MAGNETO DIVISION of
SIDNEY, NEW YORK

Bendix

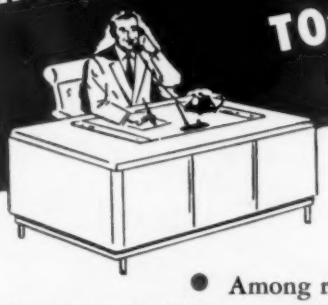
Export Sales: Bendix International Division
72 Fifth Avenue, New York 11, N. Y.

Bendix
AVIATION CORPORATION

FACTORY BRANCH OFFICES: 117 E. Providencia Avenue, Burbank, California • 23235 Woodward Avenue, Ferndale, Michigan • 7829 W. Greenfield Avenue, West Allis 14, Wisconsin • 582 Market Street, San Francisco 4, California

Make it Better with Gray Iron
Made Better with Better Equipment
Make it Bet ron
M ent
Ma on
Ma ent

For LARGER CASTINGS
made FASTER and BETTER
CALL
TOwer 1-5040
(Cleveland)

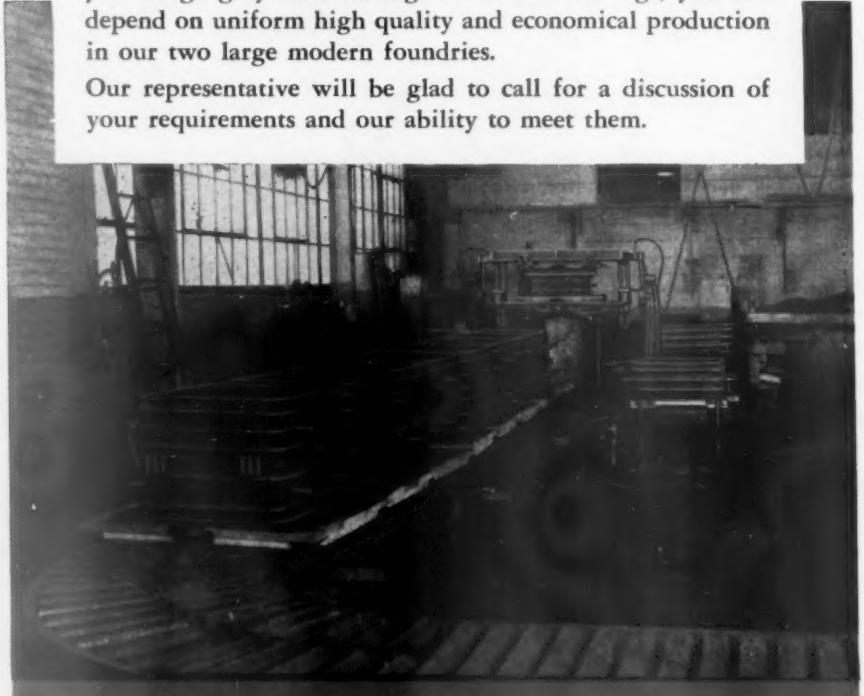


● Among recent expansions of Forest City Foundries facilities are additional equipment for the more expeditious production of large castings—particularly those which have a deep draw.

Shown here is a new installation—with time-saving hydraulic rollover and pattern draw. A roll conveyor, to carry large molds, affords a further reduction in time and labor.

Forest City's greater facilities and know-how may be just the factors needed to meet your exacting requirements. For your large gray iron castings or smaller castings, you can depend on uniform high quality and economical production in our two large modern foundries.

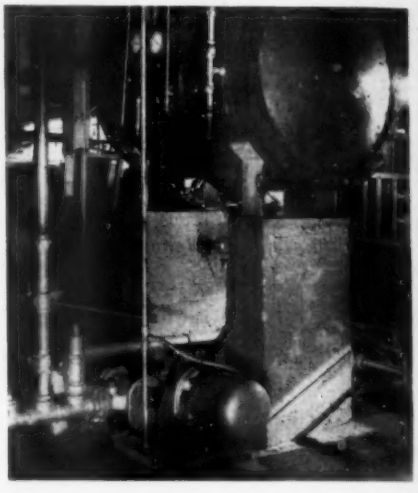
Our representative will be glad to call for a discussion of your requirements and our ability to meet them.



The FOREST CITY FOUNDRIES Company
2500 WEST 27TH STREET • CLEVELAND 13, OHIO
TELEPHONE TOWER 1-5040

PUMPS HIGHLY VISCOUS GLUE FROM VACUUM TANK

Illustration shows a Schutte & Koerting herringbone gear pump installed by Delany & Co., Inc., Philadelphia, for pumping highly viscous glue, vertically and horizontally from a vacuum tank to a storage tank. It receives the glue from vacuum tank at 80-85° F and pumps it 10 ft. vertically and more than 75 ft. horizontally to a storage tank. Glue is



pumped at 40 gpm against a discharge pressure of psig. Replacing gear pump of smaller size, present pump has increased pumping capacities considerably. Maintenance has been reduced to a minimum, as parts of pump are easily replaced. Further information is available from Schutte & Koerting Co., 31 State Rd., Cornwells Heights, Bucks Co., Pa.

PRECISION AT PRODUCTION SPEED



The drill press illustrated permits accuracy without loss of production speed in the manufacture of J. Wise & Son pruning shears. Here holes are reamed to close tolerances to fit holding bolts. Press is made by the Buffalo Forge Co., 490 Broadway, Buffalo, N. Y. It features ball-bearing spindle construction for extreme sensitivity and accuracy. Drill bit end-play is minimized by heavy construction.

(*Please turn to page* 282)

save aluminum... save your time...

GET FREE "HOW TO DO IT" SERIES OF BOOKLETS AND FILMS ON ALUMINUM FROM YOUR ALCOA DISTRIBUTOR!

Now you can use aluminum and your time to best advantage... with Alcoa's "How To Do It" Series of films and booklets. This information is basic on manufacturing with aluminum... backed by Alcoa's 64 years of knowledge. You can save countless hours in specifying, designing and in training your men. Call your Alcoa Distributor listed under "Aluminum" in your classified section for these FREE aids and for help on any aluminum problem.

ALUMINUM COMPANY OF AMERICA
1966G Gulf Building,
Pittsburgh 19, Pennsylvania

4 Booklets

(Free if requested on business letterhead)

Welding & Brazing . . . . . 130 pp.
Aluminum & Its Alloys . . . . . 168 pp.
Alcoa Aluminum in Automatic Screw Machines . 95 pp.
Riveting Alcoa Aluminum . . . . . 56 pp.

11 Films

(From Alcoa's film lending library)

Spinning . . . . . 16 minutes
Drawing, Stretching, Stamping . . . . . 22 min.
Blanking & Piercing . . . . . 15 min.
Resistance Welding . . . . . 12 min.
Arc Welding . . . . . 10 min.
Torch Welding . . . . . 17 min.
Tube & Shape Bending . . . . . 13 min.
Brazing . . . . . 7 min.
Riveting . . . . . 26 min.
Sheet Metal Practice . . . . . 20 min.
Machining . . . . . 32 min.

(All films are 16mm, with sound. All are black and white.)



ALCOA TELEVISION
—CBS Network,
6:30 to 7:00 P.M. EDST
every Sunday on most stations—8:30 to 9:00 P.M. in far West

ALABAMA
Birmingham—Hinkle Supply Co.

CALIFORNIA
Los Angeles—Ducommun Metals & Supply Co.
Pacific Metals Company, Ltd.
San Francisco—Pacific Metals Company, Ltd.

COLORADO
Denver—Metal Goods Corporation

CONNECTICUT
Milford—Edgcomb Steel of New England, Inc.

FLORIDA
Jacksonville—Florida Metals, Inc.
Miami (Hialeah)—Florida Metals, Inc.
Tampa—Florida Metals, Inc.

GEORGIA
Atlanta—J. M. Tull Metal & Supply Co., Inc.

ILLINOIS
Chicago—Central Steel & Wire Company
Steel Sales Corporation

LOUISIANA
New Orleans—Metal Goods Corporation

MARYLAND
Baltimore—Whitehead Metal Products Co., Inc.

MASSACHUSETTS
Boston (Cambridge)—Whitehead Metal Products Co., Inc.
Nashua (New Hampshire)—Edgcomb Steel of New England, Inc.

MICHIGAN
Detroit—Central Steel & Wire Co.
Steel Sales Corporation

MINNESOTA
Minneapolis—Steel Sales Corporation

MISSOURI
Kansas City, North—Metal Goods Corporation
St. Louis—Metal Goods Corporation

NEW JERSEY
Harrison—Whitehead Metal Products Co., Inc.

NEW YORK
Buffalo—Brace-Mueller-Huntley, Inc.
Whitehead Metal Products Co., Inc.
New York—Whitehead Metal Products Co., Inc.
Rochester—Brace-Mueller-Huntley, Inc.
Syracuse—Brace-Mueller-Huntley, Inc.
Whitehead Metal Products Co., Inc.

NORTH CAROLINA
Charlotte—Edgcomb Steel Company

OHIO
Cincinnati—Williams & Company, Inc.
Cleveland—Williams & Company, Inc.
Columbus—Williams & Company, Inc.
Toledo—Williams & Company, Inc.

OKLAHOMA
Tulsa—Metal Goods Corporation

OREGON
Portland—Pacific Metal Company

PENNSYLVANIA
Philadelphia—Edgcomb Steel Company
Whitehead Metal Products Co., Inc.
Pittsburgh—Williams & Company, Inc.

TEXAS
Dallas—Metal Goods Corporation
Houston—Metal Goods Corporation

WASHINGTON
Seattle—Pacific Metal Company

WISCONSIN
Milwaukee—Steel Sales Corporation

ALCOA ALUMINUM

YOUR ALCOA ALUMINUM DISTRIBUTOR HAS THE TECHNICAL HELPS YOU NEED



Many production tie-ups, caused by metal shortages, have been eliminated by substituting plentiful GLASS.

Here is a versatile material that can be formed to almost any shape and to close tolerances. It is hard, strong, and resists shocks. It has no taste or odor to impart and it is not affected by most chemicals.

We invite you to explore the possibilities. Our Design and Engineering Departments will cooperate to the fullest extent.

Your inquiries will be welcomed

●

INDIANA GLASS COMPANY

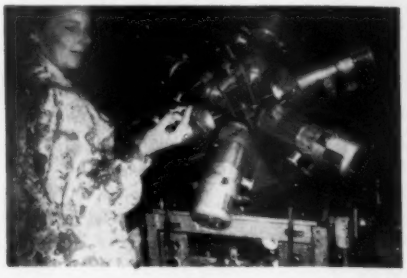
Established 1907 • Dunkirk, Indiana

Indiana glass

DESIGNING • ESTIMATING
MODELLING • MOULD MAKING
PRODUCTION
Hand and Machine Process

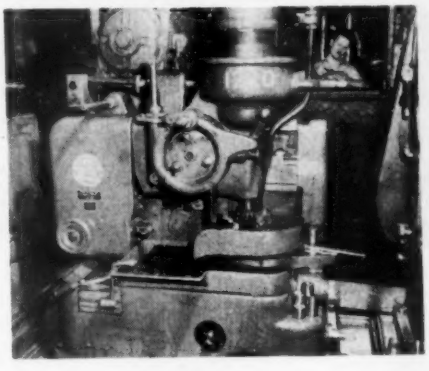
LABOR SAVING $75 ON ONE RUN

The Victor Equipment Co., San Francisco, makers of metal cutting and welding equipment, formerly used a high-speed drill press with 6-station index fixture for drilling six No. 41 holes in hexagon-shaped tobin bronze nozzle holder, producing 150 pieces per hour.



With a special fixture mounting six Dumore drill heads radially, 465 pieces were drilled per hour. The labor saving alone amounted to $75. on a run of 5,273 pieces. The drill heads are made by The Dumore Co., 1300 17th Street, Racine, Wis.

CUTTING OIL TRIPLES TOOL LIFE



This high-speed gear shaper in shop of Iron Fireman Manufacturing Co., Portland, Ore., required a new cutting tool every half day. Maintenance foreman changed to Calol Cutting Oil 20-Ta, product of the Standard Oil Company of California. Now tools on the machine are changed only after 1½ days of use. In addition to three times longer tool life, foreman reports good surface finish at high speeds.

BRIGHT DIPPING MACHINE CUTS COSTS, INCREASES VOLUME

The Bastian Blessing Co., Chicago, installed a special full automatic bright dipping machine made by Frederic B. Stevens, Inc., Detroit 16, Mich. Vice President Krein says: "Although our machine has been in operation only three months it has demonstrated its advantages in many way: Parts sent through this machine without prior cleaning come out dependably and uniformly bright and free from grease, dirt and

(*Please turn to page* 284)

Whenever the Service is

TOUGH-

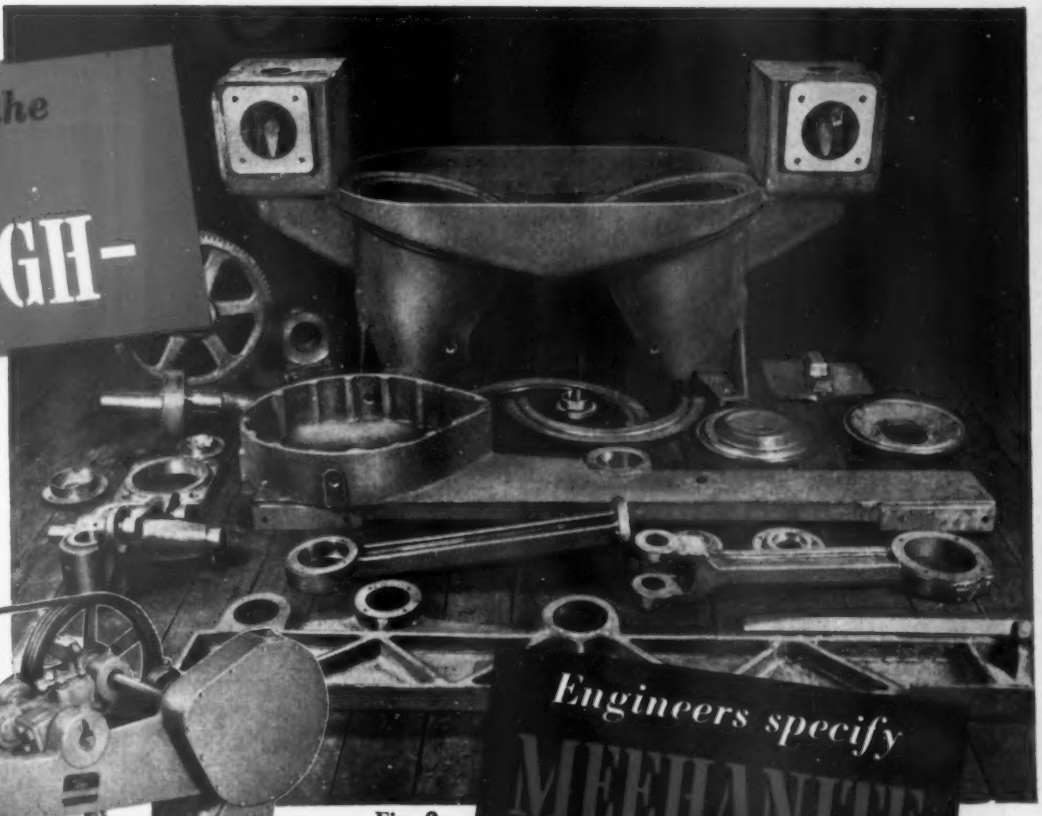


Fig. 2

Engineers specify

MEEHANITE CASTINGS!

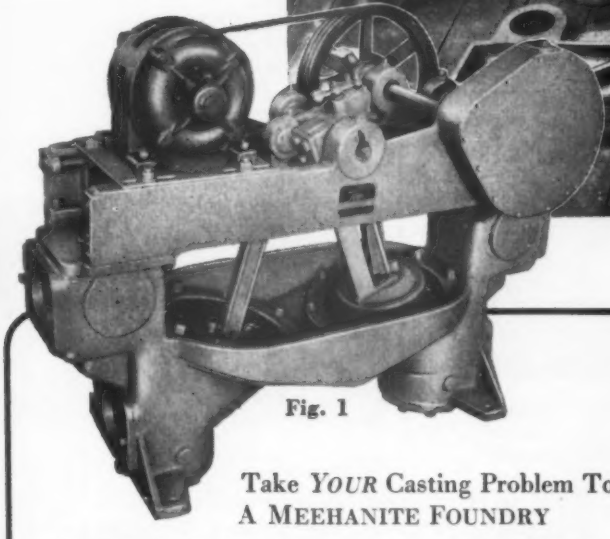


Fig. 1

Take *YOUR* Casting Problem To A MEEHANITE FOUNDRY

American Brake Shoe Co. . . . . Mahwah, New Jersey
The American Laundry Machinery Co. . . . . Rochester, New York
Atlas Foundry Co. . . . . Detroit, Michigan
Banner Iron Works . . . . . St. Louis, Missouri
Barnett Foundry & Machine Co. . . . . Irvington, New Jersey
E. W. Bliss Co. . . . . Hastings, Mich. and Canton, O.
Builders Iron Foundry . . . . . Providence, Rhode Island
Compton Foundry . . . . . Compton, Calif.
Continental Gin Co. . . . . Birmingham, Alabama
Crawford & Doherty Foundry Co. . . . . Portland, Oregon
The Cooper-Bessemer Corp. . . . Mt. Vernon, Ohio and Grove City, Pa.
Empire Pattern & Foundry Co. . . . . Tulsa, Oklahoma
Farrel-Birmingham Co., Inc. . . . . Ansonia, Connecticut
Florence Pipe Foundry & Machine Co. . . . . Florence, New Jersey
Fulton Foundry & Machine Co., Inc. . . . . Cleveland, Ohio
General Foundry & Manufacturing Co. . . . . Flint, Michigan
Greenlee Foundry Co. . . . . Chicago, Illinois
The Hamilton Foundry & Machine Co. . . . . Hamilton, Ohio
Hardinge Company, Inc. . . . . New York, New York
Hardinge Manufacturing Co. . . . . York, Pennsylvania
Johnstone Foundries, Inc. . . . . Grove City, Pennsylvania
Kanawha Manufacturing Co. . . . . Charleston, West Virginia
Lincoln Foundry Corp. . . . . Los Angeles, California
E. Long Ltd. . . . . Orillia, Ontario
Otis Elevator Co., Ltd. . . . . Hamilton, Ontario
The Henry Perkins Co. . . . . Bridgewater, Massachusetts
Pohlman Foundry Co., Inc. . . . . Buffalo, New York
Rosedale Foundry & Machine Co. . . . . Pittsburgh, Pennsylvania
Ross-Meehan Foundries . . . . . Chattanooga, Tennessee
Shenango-Penn Mold Co. . . . . Dover, Ohio
Smith Industries, Inc. . . . . Indianapolis, Ind.
Standard Foundry Co. . . . . Worcester, Massachusetts
The Stearns-Roger Manufacturing Co. . . . . Denver, Colorado
Traylor Engineering & Mfg. Co. . . . . Allentown, Pennsylvania
Valley Iron Works, Inc. . . . . St. Paul, Minnesota
Warren Foundry & Pipe Corporation . . . Phillipsburg, New Jersey

"This advertisement sponsored by foundries listed above."

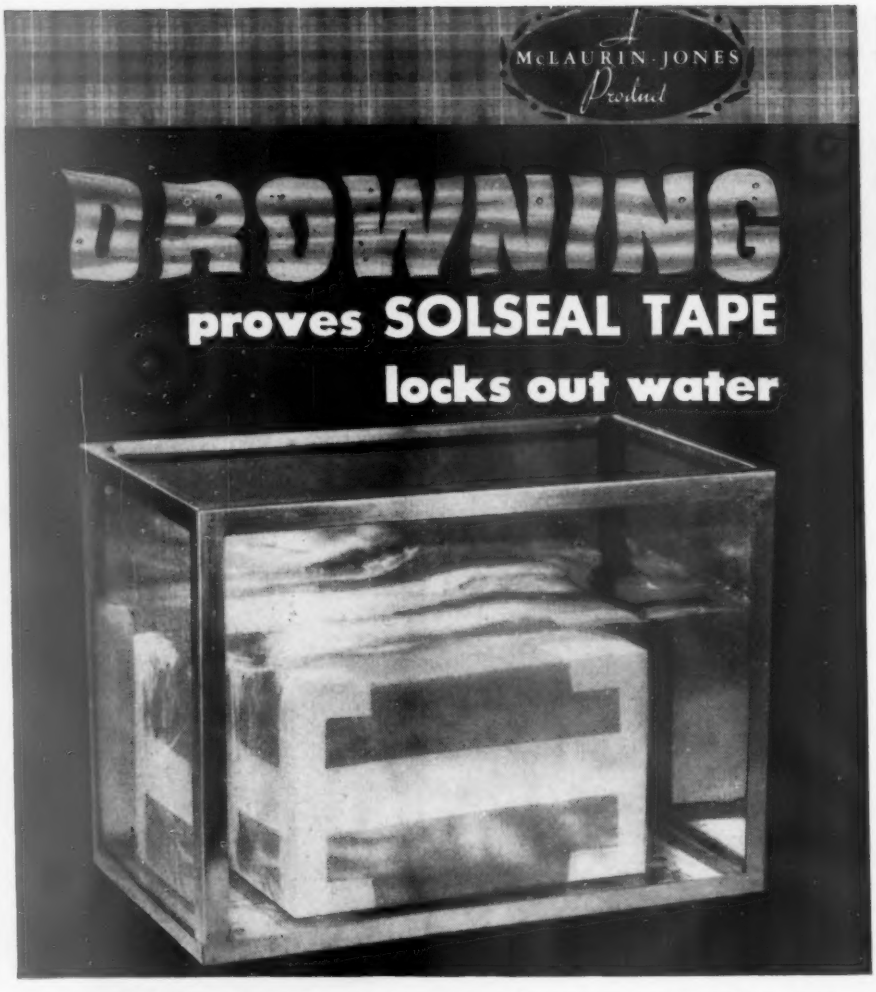
THE DORRCO V-type Diaphragm Pump (Fig. 1) manufactured by the Dorr Company, Stamford, Conn., was designed for handling sludges, pulps or slimes which contain sizable quantities of solid material. In keeping with their international reputation as builders of dependable and efficient equipment, designed to provide better service life under severe operating conditions, the Dorr Company regularly designs to and specifies Meehanite engineering characteristics.

Note that the Meehanite castings (Fig. 2) used in this specific unit reveal the fact that every major component is a Meehanite casting. These castings provide the necessary strength, toughness and resistance to wear and corrosion demanded by the service functions of such a pump.

Write for our new 20-page Pump Bulletin No. 36 which gives complete details not only on pump applications but various specific property tests as applied to impact, erosion, corrosion and wear.

MEEHANITE®

NEW ROCHELLE, N. Y.



Drowned for nine weeks . . . tortured before and after submersion . . . and Solseal Waterproof Tape held a watertight seal. When the tape was finally pulled away, the carton fibres came with it. Proof positive Solseal Waterproof Tape becomes part of a waterproof carton!

Here's a tape that not only seals your merchandise against dust, dirt and gases, but also against water and humidity in extremes of heat or cold.

The secret of Solseal's waterproof bond results from the combination of the special material in the Solseal Tape with those of the Solseal Solvent. This forms a waterproof bond after it has been applied to the carton. It is non-flammable and non-volatile. The solvent can be put in your regular dispensers. You then apply Solseal Tape as you would any other.

Think of your product. Think of your customer's good will. Protect both with the miracle of modern packaging . . . Solseal Waterproof Tape!

Super-strong Glaskraft Solseal Tape

is embedded with glass fibres. This boosts tensile strength, gives you a tape that can take more than the carton it seals.

Both 30/30/30 SOLSEAL and GLASKRAFT SOLSEAL meet requirements of joint Army-Navy Spec. J.A.N.—P—128 and U.S. Bureau of Standards UU-T-116.

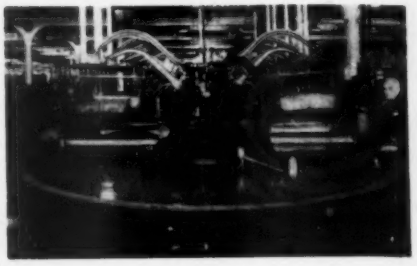
McLAURIN-JONES CO.

BROOKFIELD, MASS.

Makers of famous Tanglefoot and Blue Star Sealing Tapes, Glaskraft Strapping Tape, Ideal Stay Tape and a wide range of corrugated box tapes.
Offices in New York, Chicago, Cincinnati, Los Angeles.
Mills located at Brookfield and Ware, Mass., Grand Rapids, Michigan and Homer, La.

(*Continued from page 282*)

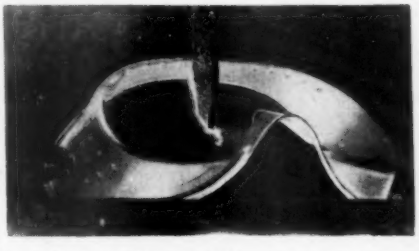
chips. We have increased our volume and reduced our unit costs on bright dipping operations. It is doing its job



without the fumes and personal protective equipment formerly used, and it looks like we will have less labor turnover in this work."

GOGGLE STOPS FLYING FRAGMENT

The Saf-I-Shield illustrated, made by United States Safety Service Company, 1213 McGee, Kansas City, Mo., was worn by a tool room clerk for the Sandy Hill Iron & Brass Works, Hardson Falls, N.Y. The picture tells the story. A fragment from a grinding



wheel traveling 6,000 surface feet a minute was stopped by the goggle and the operator escaped without the slightest injury, saving an undetermined but naturally a large amount of money in claims and employee lost time.

INVENTORY CONTROL SYSTEM SAVES THOUSANDS OF DOLLARS

Illustration shows visible inventory control system in office at Baker & Hamilton Co., San Francisco, Calif. In addition to saving thousands of dollars a year by materially reducing "out of stock" items, the system has introduced more efficient signal control of inventory



and ordering operations. Accurate, complete inventory is now possible every 24 hours without increase in operating costs. Further information is available from The Victor Safe & Equipment Co., Inc., North Tonawanda, N. Y.

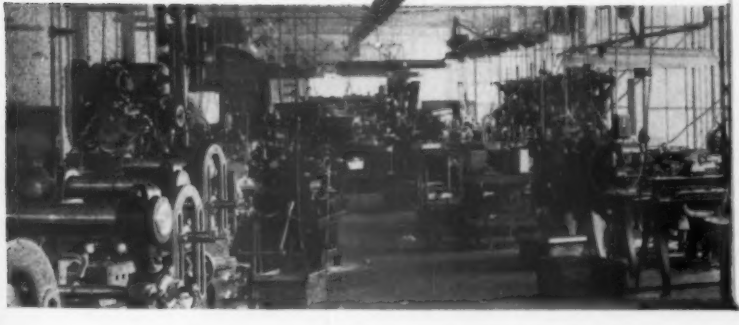
(*Please turn to page 286*)

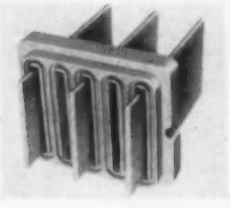
for more efficient, economical power distribution

FA POWERPLUGIN

For safe, efficient, flexible, economical and dependable power distribution for machines and lights in industrial plants, Ⓕ POWERPLUGIN Busduct is unsurpassed.

- Made in standard 10-foot lengths with a plugin outlet every foot of the way in one side, or alternately in two sides, Ⓕ POWERPLUGIN makes power available where and when it's needed.
- It enables machines to be relocated and regrouped without disrupting production, eliminates temporary connections and long leads, cuts maintenance costs and affords other big savings by reducing power loss and voltage drop to a minimum. Too, it's 100 percent salvageable.
- Underwriters' Laboratories' approved, Ⓕ POWERPLUGIN is available in capacities of 250 to 1000 amps, 600 volts AC or less with Klampswitchfuz, Shutlbrak or Circuit Breaker plugin units for 200 amps or less.
- If you want greater plant efficiency Ⓕ POWERPLUGIN is the answer. For further information contact your nearest Ⓕ representative, listed in Sweets or write for bulletins.







Features of Ⓕ POWERPLUGIN

Ⓕ POWERPLUGIN is made of 16-gauge steel with attractive gray enamel finish. It is only 7 inches wide, 4 inches deep for 600 amps and less and 6 inches deep for 800 and 1000 amps, permitting its use in restricted areas.

Insulators are one-piece glazed porcelain with steel channel supports riveted into position.

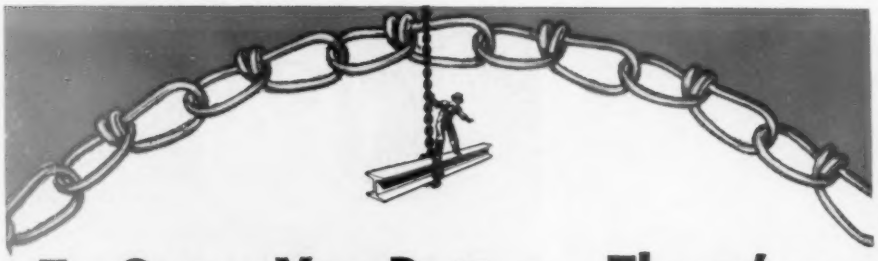
Sliding cover type plugin openings, simplified adjustable, two-screw type fasteners for plugin units, two sliding type mounting brackets per section for hanging as desired, electro-silver plated contact surfaces at joints with two or four brass jam bolts with phosphor bronze cup washers in elongated fastening holes are other features.

Frank Adam Electric Co.

P. O. BOX 357 ST. LOUIS 3, MISSOURI

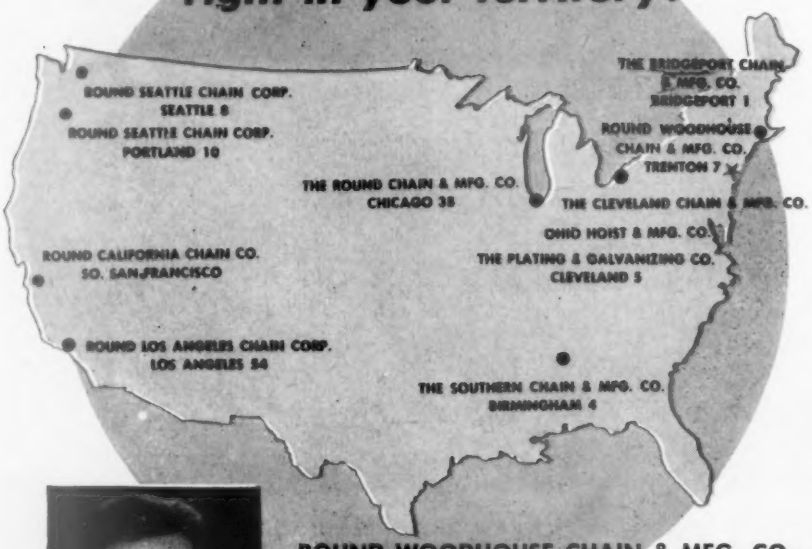
Makers of BUSDUCT • PANELBOARDS • SWITCHBOARDS • SERVICE EQUIPMENT • SAFETY SWITCHES • LOAD CENTERS • QUIKHETER

FA TRADE MARK



To Serve You Better...There's a *Round* CHAIN COMPANY

right in your territory!



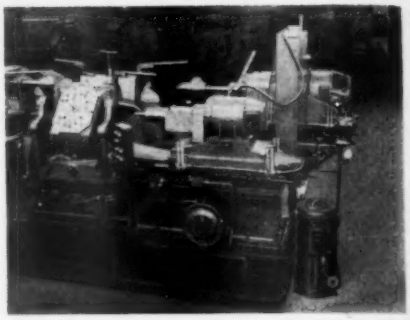


W. J. KEENAN

ROUND WOODHOUSE CHAIN & MFG. CO.— established in 1884 — joined the nationwide Round organization in 1936. Under the management of Willis J. Keenan, who has been a Round Chain man for 15 years, Woodhouse now offers *a complete line* of welded and weldless chain, slings, chain hoists, electric hoists and trolleys to the important Middle Atlantic market. *Sold exclusively through distributors and wholesalers.*



SAVING $72,000 PLUS 20% PRODUCTION INCREASE



Spicer Manufacturing Co., Toledo, Ohio, division of Dana Corporation, installed automatic centralized lubrication systems on eighty production machines. These varied from bell housing machines and multiple drill presses to chip crushers and automatics. Installation of the lubricant application systems resulted in a saving of $72,000 in labor and materials, with 20% increase in production and consistently better quality work. The lubrication systems were installed by the Lincoln Engineering Co., 5701 Natural Bridge St., St. Louis, Mo.

ELECTRONIC DEVICE PREVENTS TOOL AND DIE BREAKAGE

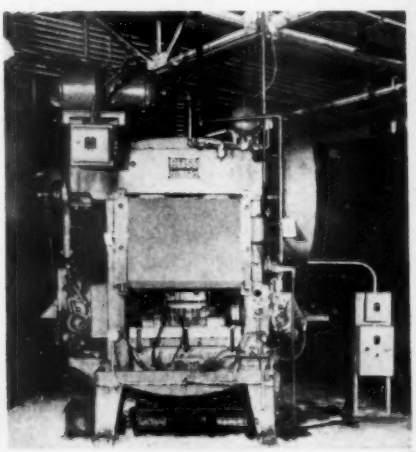


Illustration shows "Protectron", an electronic device made by the Brinnell Co., Simsbury, Conn., monitoring large punch press at Globe-Union, Inc., Milwaukee. The device senses immediately any increase in mechanical overload above normal, and stops the automatic machine with which it is connected instantly before damage can occur. In addition to dollar-savings through prevented tool and die breakage, production is also increased.

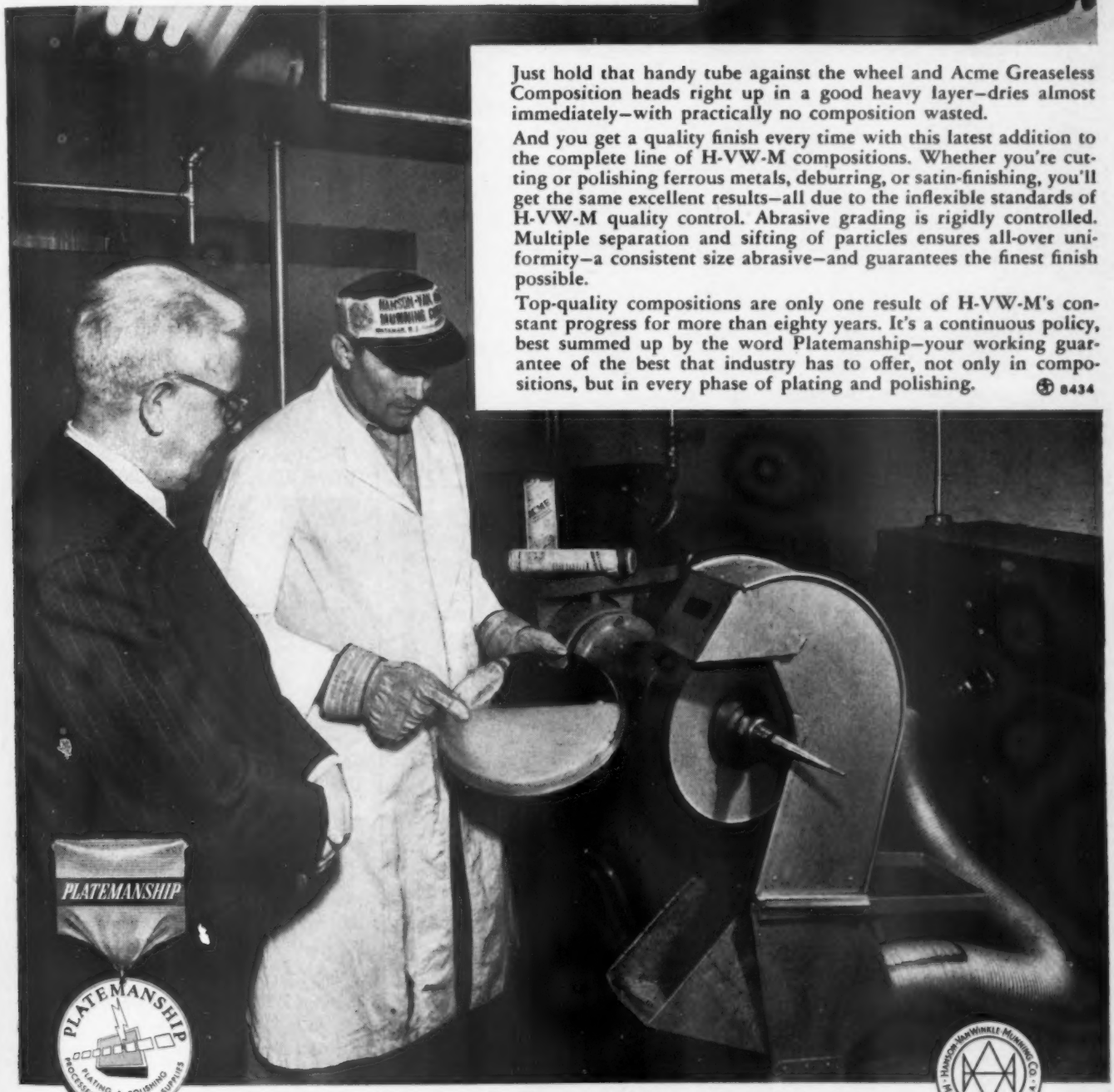
PLATE STEEL DESIGNED TO TAKE PLACE OF TOOL STEELS

The die tryout press illustrated is manufactured by the Dake Engine Co., Grand Haven, Mich. It operates under

(*Please turn to page* 288)

seeing is believing with this new ACME Greaseless Composition





Just hold that handy tube against the wheel and Acme Greaseless Composition heads right up in a good heavy layer—dries almost immediately—with practically no composition wasted.

And you get a quality finish every time with this latest addition to the complete line of H-VW-M compositions. Whether you're cutting or polishing ferrous metals, deburring, or satin-finishing, you'll get the same excellent results—all due to the inflexible standards of H-VW-M quality control. Abrasive grading is rigidly controlled. Multiple separation and sifting of particles ensures all-over uniformity—a consistent size abrasive—and guarantees the finest finish possible.

Top-quality compositions are only one result of H-VW-M's constant progress for more than eighty years. It's a continuous policy, best summed up by the word Platemanship—your working guarantee of the best that industry has to offer, not only in compositions, but in every phase of plating and polishing. ⊕ 8434

For technical information on buffing compositions ask for Bulletin C-100.

Your H-VW-M combination—of the most modern testing and development laboratory—of over 80 years experience in every phase of plating and polishing—of a complete equipment, process and supply line for every need.

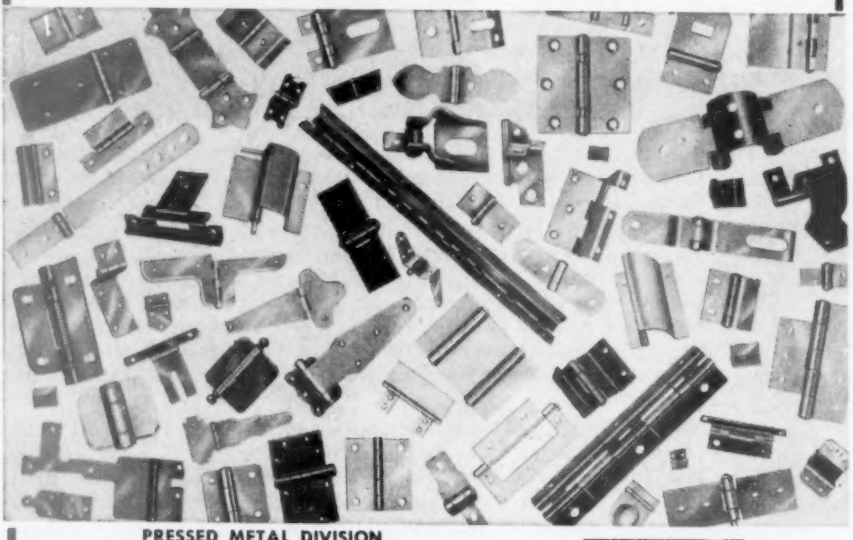
HANSON-VAN WINKLE-MUNNING CO., MATAWAN, N. J.
PLANTS AT: MATAWAN, N. J. • ANDERSON, INDIANA
SALES OFFICES: ANDERSON • BOSTON • CHICAGO • CLEVELAND
DAYTON • DETROIT • GRAND RAPIDS • MATAWAN • MILWAUKEE
NEW HAVEN • NEW YORK • PHILADELPHIA • PITTSBURGH
ROCHESTER • SPRINGFIELD (MASS.) • STRATFORD (CONN.) • UTICA

H·VW·M

INDUSTRY'S WORKSHOP FOR THE FINEST IN PLATING AND POLISHING PROCESSES • EQUIPMENT • SUPPLIES

DEFENSE CONTRACTS CALL FOR HINGES?
Call on STANLEY...

You just specify the hinge you want —Stanley does the rest, from first sketch to finished product.
Stanley gives you the advantage of expert designers and production engineers—complete research and tool-making facilities—and the plating and finish best suited to your needs. As the world's largest producer of hinges, Stanley is geared for efficient production to meet your D. O. deadlines. Write for full information—not only on special hinges, but drawings and stampings as well—now!



PRESSED METAL DIVISION
The Stanley Works, New Britain, Conn.
New York Detroit Los Angeles
Chicago San Francisco Seattle

STANLEY
Reg. U.S. Pat. Off.

HARDWARE • TOOLS • ELECTRIC TOOLS • STEEL STRAPPING • STEEL



PROMET COMES TO THE RESCUE
TEMPORARY LUBRICATION FAILURES NEEDN'T BE EXPENSIVE

Medium and High-Lead

PROMET THE Engineered BRONZE

BRONZES

#1, #2-S, #6, #6-SK, carry on until lubrication can be restored.

Hard and strong enough to take the constant pounding of heavy shock loads and high compressive forces, these Promet Bronzes are also sufficiently high in lead content, soft enough, to prevent seizure and to embed harder particles that would ordinarily result in scoring.

Easily machined at high speeds without lubricants or coolants.

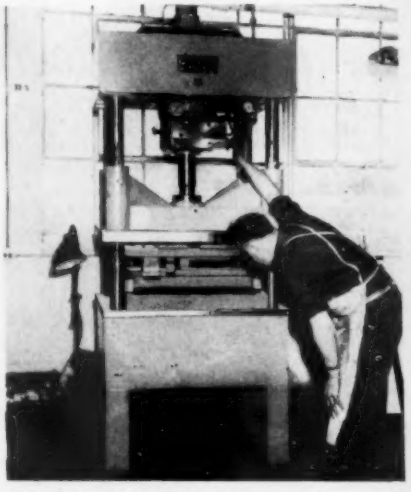
Write today for service data sheets and quotations.

THE AMERICAN CRUCIBLE PRODUCTS CO.

1319 Oberlin Avenue Lorain, Ohio, U.S.A.

(*Continued from page 286*)

air-hydraulic power and has a double acting 50 ton capacity. Capacity of special presses runs up to 150 tons. Press platens, formerly made of mild plate, are now produced from Speed Case



(X1515). The Dake company states this machines to a better finish in one-half the time of mild steel plate, and has been a factor in cutting costs. Speed Case is made by W. J. Holliday & Co., Hammond, Ind. It is a free machining, low carbon, open hearth plate steel.

PRODUCTION INCREASED 100% BY MOLDING COMPOUND CHANGE

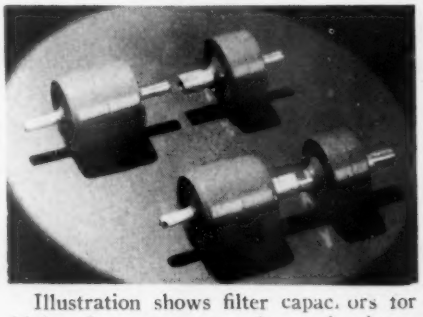
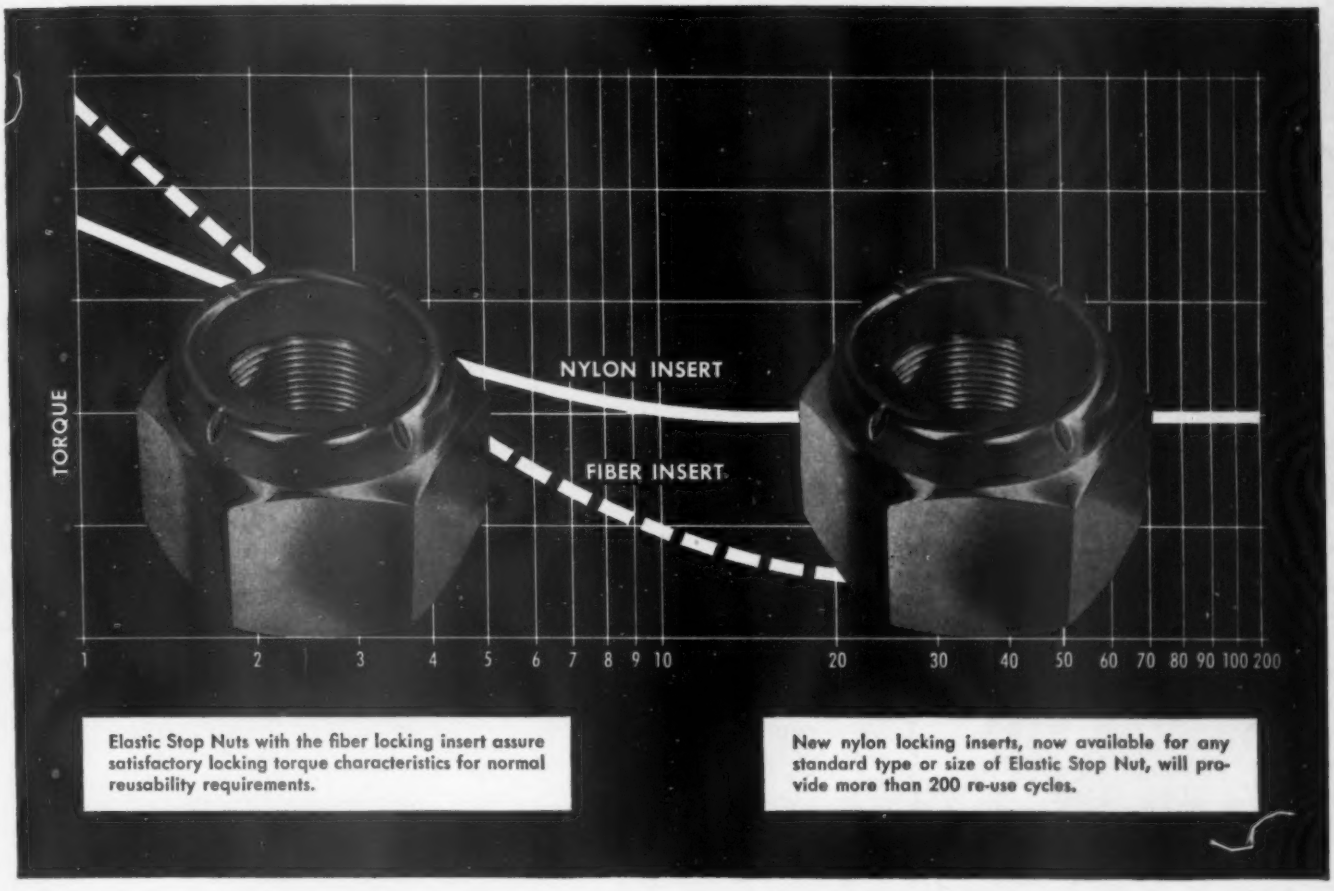


Illustration shows filter capacitors for high voltage power supply, used primarily in television sets, produced by Centralab Division of Globe-Union Corp., Milwaukee, Wis. By changing to alkyd molding compound, Centralab, found material that would adhere closely to the ceramic part of the unit, which possessed satisfactory electrical properties, and made possible an increase in the productive capacity of molding equipment amounting to at least 100%. Alkyd molding material is made by the Plaskon Division, Libbey-Owens-Ford Glass Co., Toledo 6, Ohio.

CENTRALIZED LUBRICATION SAVES $1,742 PER MACHINE PER YEAR

Installation of automatic centralized lubrication systems on 80 textile machines, including slashers, setting frames and looms, has resulted in an average saving of $ 1,742 per machine in labor, lu-

(*Please turn to page 290*)



How do you measure Reusability?

UP TO FIFTEEN TIMES?

For assemblies that must be locked in place, Elastic Stop Nuts with fiber locking inserts guarantee a permanently secure grip—plus ample reusability to cover most normal maintenance requirements.

For assemblies that must be disassembled and reassembled five, eight, ten, or more times during normal use, fiber insert Elastic Stop Nuts make the ideal self-locking fastener.

When an Elastic Stop Nut is run on a bolt, the Red Elastic Collar hugs the bolt—actually makes a skin-tight fit against the entire contact length of the threads—and this controlled torque firmly resists vibration or shock. When the Elastic Stop Nut is removed from the bolt, the natural resiliency of the Red Elastic Collar is your guarantee of continuing torque when the nut is reapplied.

MORE THAN FIFTEEN TIMES?

Now, for assemblies that require constant adjustment or frequent disassembly for checking and maintenance, ESNA offers all standard types and sizes of Elastic Stop Nuts with the new nylon locking inserts.

Reusable up to 200 times with remarkably constant torque characteristics, these new Elastic Stop Nuts offer the one-piece construction, the shock resistance, and the moisture-seal features that many manufacturers now depend upon in the standard Elastic Stop Nuts.

One of these Elastic Stop Nuts is probably the solution to your most troublesome fastener problem. It will pay you to look into the self-locking performance of Elastic Stop Nuts. For information, write for a new, free booklet. **Elastic Stop Nut Corporation of America,** 2330 Vauxhall Road, Union, New Jersey, Dept. N5-715.

ESNA
TRADE MARK

ELASTIC STOP NUTS



NYLON AND FIBER INSERT TYPES ARE QUALIFIED TO SPEC. AN-N-5

ARE *You* MAKING THESE COSTLY SCRAP DISPOSAL MISTAKES?



We are indebted to the Research Institute of America, Inc. for their fine "Operations Report" discussion on efficient scrap disposal. We have been promoting the principles involved for over a quarter of a century to provide the maximum in metal service to our customers.

"Except for newer types of mechanical handling equipment, the old principles for efficient scrap collection and handling apply. Segregate scrap at the point of generation and keep it uncontaminated to the point of shipment. Some companies follow these basic rules but don't get the maximum net return from scrap because they make these common mistakes . . .

"1. Segregation isn't carried through to different types of the same material. For example, steel scrap is collected all together instead of separately as tool, stainless, silicon, carbon, etc. To get top prices for your scrap, check OPS regulations for the various categories and see which breakdown is most profitable.

"2. Relative profit of prepared vs. unprepared scrap isn't determined. Although top prices go for scrap prepared according to recognized standards, it may cost too much to get the stuff into the required shape. One company was selling prepared plate scrap for $4 more than unprepared. But preparation costs were $5 per gross ton, including the cost of burning or shearing to conform to specifications for low phos plate. A study showed it would be most profitable for the plant to take $4 less for all but the most easily prepared portions."

New Jersey Metals, with over 31 years of coast to coast service to industry, is well qualified to help you bridge all costly scrap disposal mistakes. Proper classification and segregation of your metals in addition to our thorough knowledge of current metal values and best markets for each will give you the most profit possible on each metal scrap sale! Our skilled laboratory technicians and modern laboratory facilities are also available to you . . . without cost or obligation.

Our accumulated experience and "know how" are completely at your disposal. Let us show you how we can be of service!

Notice to Nickel Anode Users

We will help you save money . . . lessen the impact of metal shortages . . . by converting your nickel anode ends, stubs and other Grade A scrap nickel into new cast oval nickel anodes.

Buyers of

Non-Ferrous Metals . . . Alloys . . . Residues
High Speed Steel Scrap
Mercury Scrap . . . Silver-plated Scrap
Stainless Steel Scrap
Tin and Solder Dross

For Quotations on ANY quantities CALL EL 2-6465 . . . or write

New Jersey Metals Co.

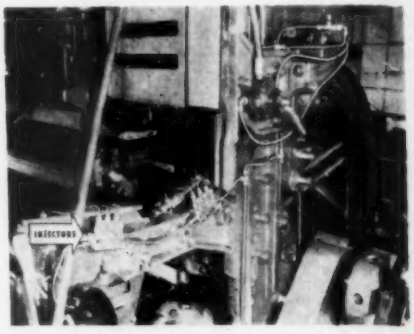
Serving industry from coast to coast since 1920

708 ROCKEFELLER ST., ELIZABETH 2, N. J.

N.J. METALS

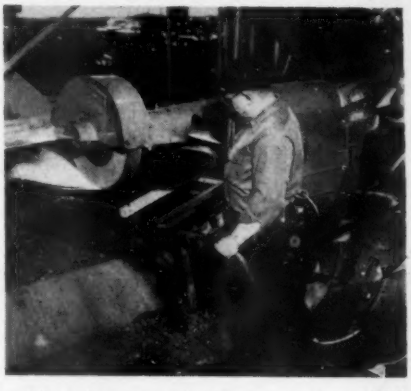
(*Continued from page 288*)

bricant, machine "downtime", maintenance and repairs, in plant of Alexander Smith, Inc., Yonkers, N. Y. The cen-



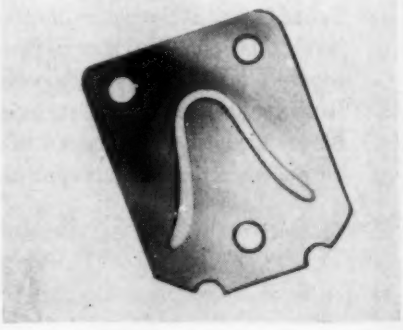
tralized systems were installed on machines varying in number of bearing points from 24 to 228. Complete information in regard to the systems is available from the Lincoln Engineering Co., 5701 Natural Bridge Ave., St. Louis 20, Mo.

POLISHING DEPARTMENT PRODUCTION INCREASED 25%



Manufacturer of plows reports a 25% increase in production in the polishing department through the use of a patented ceramically coated aluminum oxide abrasive developed by the Exolon Company, Tonawanda, N. Y. The ceramic coating roughens the surface of the abrasive particles and greatly increases adhesion to the bond and wheel.

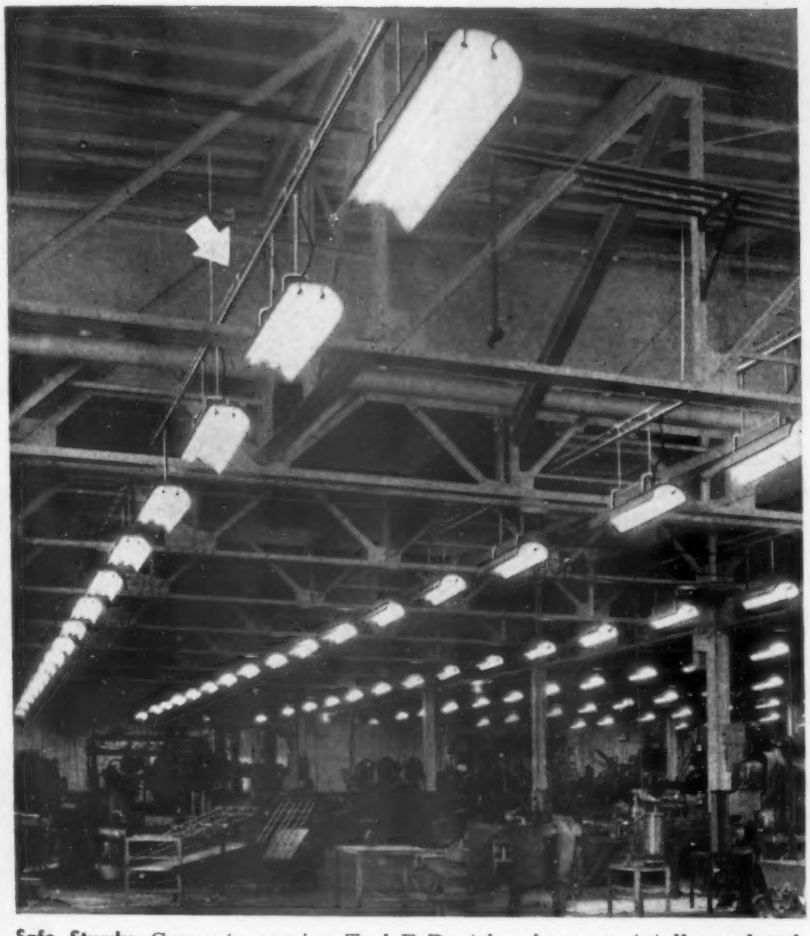
MORE PARTS PER POUND TOOL LIFE INCREASED



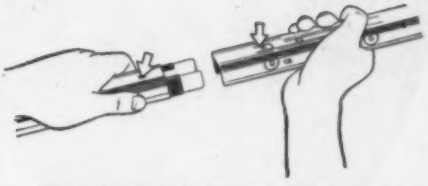
New England compressor manufacturer turned to precision rolled Swedish steel, product of Sandvick Steel, Inc.,

(*Please turn to page 292*)

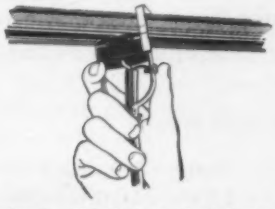
Lighting where and when you need it . . . without rewiring!



Safe. Sturdy. Current-carrying Trol-E-Duct bus bars are totally enclosed. Duct itself (arrow) supports fixtures. Continuous slot in bottom of duct means you can move lights (or small portable tools on trolleys) anywhere, any time without rewiring. *It's every inch an outlet!*



Quickly installed. Sections go up in a hurry, join without bolting. Sections are prefabricated, standardized in lengths of from 1 to 10 feet. Entire duct can be dismantled and reinstalled easily without a scrapped part.



Convenient. Lighting twist-out plugs slip into duct without cutting off power or upsetting production schedules. Plugs ground on steel casing before contacts touch bus bars, slide in with simple twist anywhere along duct.



Mobile Trolleys. Smooth-rolling trolleys are available to carry small, portable power tools, speed up production. Trolleys ride inside duct on metal wheels. Constant spring pressure against bus bars assures perfect contact.

BullDog Universal Trol-E-Duct lets you add, remove or rearrange lights quickly. No loss of man-hours, money, material.

When it comes to moving lighting fixtures, costs usually skyrocket. Not so with BullDog Universal Trol-E-Duct.

For here is a *truly mobile, fully flexible* lighting system at its money-saving best.

Every inch of Trol-E-Duct is a potential tap-off for lights or small power tools. To move lights or add new ones when you change machine layout, just slip twist-out plugs or trolleys in or out of continuous slot in bottom of duct. Duct itself supports lighting fixtures.

That's all. No rewiring needed. No production lost through shutdowns. No wasted man-hours or scrapped material, either, as with fixed outlet systems.

Trol-E-Duct is prefabricated, standardized and salvable. Installs in a hurry. Can be dismantled and reinstalled without loss.

Get all the facts on this modern, low-cost lighting system that fits present needs . . . provides for future needs, as well. Contact a nearby BullDog Field Engineer. He'll show you an installation in your area that will speak for itself. Or, for descriptive bulletin, write BullDog direct, won't you?

BULLDOG ELECTRIC PRODUCTS COMPANY
DETROIT 32, MICHIGAN • FIELD OFFICES IN ALL PRINCIPAL CITIES
IN CANADA: BULLDOG ELECTRIC PRODUCTS OF CANADA, LTD., TORONTO
PIONEERS IN FLEXIBLE ELECTRICAL DISTRIBUTION SYSTEMS

BULLDOG

SERVING INDUSTRY FOR 50 YEARS WITH FINER ELECTRICAL PRODUCTS



IT'S GOOD to get in the scrap—but better to keep your steel off the scrap pile. So stop rust, the creeping disease that cripples steel—whether in equipment or product. Check your rust problem here:

Rust on raw stock?

Remove it with a water-mixed solution of Oakite Compound No. 32, the inhibited liquid that dissolves rust and scale without affecting sound metal surfaces.

Rust and grease on surfaces to be painted?

Use Oakite Compound No. 31 or 33 to remove rust, grease, heat scale, carbon smut, welding fluxes—deposit a thin, insoluble phosphate film on surface to insure firm, long-lasting paint adhesion.

Preventing rust while parts are being processed?

Use Oakite Special Protective Oil. Full strength or diluted, OSPO quickly displaces water, covers steel surfaces with thin, rust-preventive film. Apply by hand, or immerse parts in tank.

Cleaning and conditioning metal for painting?

Use the Oakite CrysCoat Process, the patented method that cleans metal, prevents rust before painting, and protects against future corrosion—yet costs as little as 20 cents per 1,000 square feet.



Get the facts in this kit. Ask your local Oakite Technical Service Representative, or write Oakite Products, Inc., 54 Rector St., New York 6, N. Y. No obligation.

SPECIALIZED INDUSTRIAL CLEANING

OAKITE

TRADE MARK REG. U. S. PAT. OFF.

MATERIALS • METHODS • SERVICE

Technical Service Representatives in Principal Cities of U. S. & Canada

(*Continued from page 290*)

111 8th Ave., New York, for making compressor flapper valves. Precision gauge of steel making for increase in linear footage in each round of steel, increased the number of parts from each pound of strip steel. Increased tool life is also reported.

* * *

BRAZE 560 CONNECTORS PER HOUR

The two girls in the accompanying illustration easily braze 560 electrical transformer connectors per hour with the motorized turntable setup shown. They merely place and flux parts and Easy-Flow wire rings and remove the fin-



ished assemblies. The brazing is done automatically as assemblies pass over the natural gas burners. Further information is available from Handy & Harman, 82 Fulton St., New York 38, N. Y.

* * *

VAPOR DEGREASER REDUCES CLEANING TIME 66%

Illustration shows Circo vapor degreaser installed by the Berlis Bearing Co., Belleville, N. J., which is reported to have made it possible to reduce manpower 66% and increases cleaning effi-



ciency 200%. Tradename of the degreasing solvent used is Per-Solv. Further information is available from the Tapper Equipment Co., 24 Main St., Matawan, N. J.

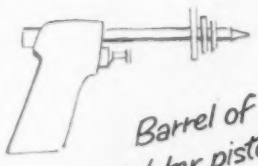
(*Please turn to page 296*)

Bundyweld "Doodles"

to jog a designer's imagination



Frame of popular laundry hamper



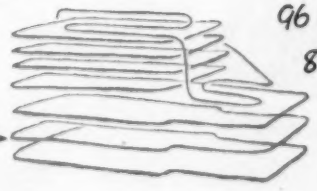
Barrel of Water pistol

Redesigning an old product? Developing a new one? With Bundyweld Tubing on the job, there's every chance for improved performance, lowered cost, smoother production, *or* some other practical plus.

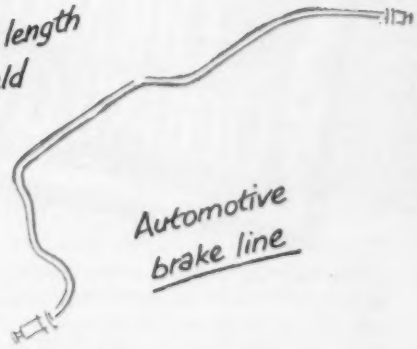
No other tubing has all the Bundyweld features. It's the only tubing double-walled from a single strip, with inside and outside beveled edges.

Too, you may profit from Bundy's famous fabrication skills. In working out tubing parts like those shown here, we may have found the answer to something baffling you. Or we can develop a new solution. Let us send you information on Bundyweld Tubing or Bundy services. ***Bundy Tubing Company, Detroit 14, Michigan.***

Coil for a Home Freezer



96 bends — 82' continuous length of Bundyweld



Automotive brake line

Bundyweld® Tubing

DOUBLE-WALLED FROM A SINGLE STRIP

Extra-strong	**Easily machined**
High fatigue limit	**Takes plating**
Leakproof	**Takes plastic coating**
High bursting point	**Scale-free**
High thermal conductivity	**Clean inside and out**
Shock-resistant	**No inside bead**
Ductile	**Uniform I.D., O.D.**

WHY BUNDYWELD IS BETTER TUBING



Bundyweld starts as a single strip of copper-coated steel. Then it's . . .



continuously rolled twice around laterally into a tube of uniform thickness, and



passed through a furnace. Copper coating fuses with steel. Presto . . .



Bundyweld, double-walled and brazed through 360° of wall contact.



← **NOTE** the exclusive patented Bundyweld beveled edges, which afford a smoother joint, absence of bead and less chance for any leakage.

Bundy Tubing Distributors and Representatives: Cambridge, 42, Mass.: Austin-Hastings Co., Inc., 226 Binney St. • Chattanooga 2, Tenn.: Peirson-Deakins Co., 823-824 Chattanooga Bank Bldg. • Chicago 32, Ill.: Lapham-Hickey Co., 3333 W. 47th Place • Elizabeth, New Jersey: A. B. Murray Co., Inc., Post Office Box 476 • Philadelphia 3, Penn.: Rutan & Co., 1717 Sansom St. • San Francisco 10, Calif.: Pacific Metals Co., Ltd., 3100 19th St. • Seattle 4, Wash.: Eagle Metals Co., 4755 First Ave. South Toronto, Ontario, Canada: Alloy Metal Sales, Ltd., 181 Fleet St., E. • Bundyweld nickel and Monel tubing is sold by distributors of nickel and nickel alloys in principal cities.

Standout Identification

at the right price!



Long experience, skilled craftsmanship, plus the latest and best equipment enable us to produce high quality metal plates for no more than you may pay for inferior identification. A sparkling metal plate spotlights your product, reflects quality and lends distinction. You're assured of lasting identification, clearness, and permanent readability with plates produced by Chicago Thrift-Etching Corporation.

GET OUR QUOTATION

Send a rough sketch, blueprint or sample, with specifications, for quotation —or write us fully about your requirements in name plates, instruction plates, dials, panels, scales, etc. Here standout identification and enduringly fine appearance costs no more!

ALUMINUM ANODIZING We are equipped to apply this protective coating to aluminum parts and products by the exclusive Alumilite process—in a wide range of attractive colors. Your request for quotation is solicited.

CHICAGO THRIFT-ETCHING CORPORATION

1555 North Sheffield Ave., Chicago 22, Illinois, Dept. C

Metal Name Plates, Dials and Panels, Etched or Lithographed • Etched Metal Scales, Clock Dials, Trophy Plates, Plaques, Advertising Specialties • Etched Metal Panels for elevator and architectural uses • Coin Banks • Lithographed or Screened Plastic Name Plates or Dials • Aluminum Anodizing by the Alumilite Process.

SUBSIDIARY OF DODGE MANUFACTURING CORPORATION, MISHAWAKA, INDIANA

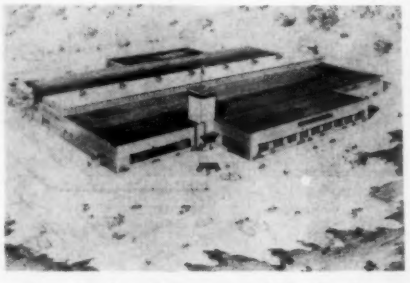
PRODUCTION EQUIPMENT ADVISORY COMMITTEE

An Advisory Committee on Production Equipment has been established in the Office of Defense Mobilization. The Committee will review Federal machine tool and production equipment policies and programs. It will also recommend new programs as necessary to assure: (1) The availability of machine tools and production equipment to meet defense production requirements; (2) the maintenance of adequate capacity to produce machine tools and production equipment as part of the mobilization base; and (3) the maintenance of standby machine tools and production equipment, including methods of modernization, rotation or disposition of obsolete tools and equipment, to meet full mobilization requirements.

RELIANCE EUCLID PLANT NOW IN FULL OPERATION

The new Euclid, Ohio, plant of the Reliance Electric & Engineering Co., erected at a cost of $1,800,000 and put into operation late last year, is the second plant to be built by the company since the end of World War II. It is a single story structure of steel, concrete and brick construction, on a 65 acre plot along the Nickel Plate Railroad.

The plant enables the company to centralize, under one roof, its diverse technical service functions and facilities required in the design, development, production, repair and service of motors and electronic-type controls for adjustable speed drives.



Specifically, these are (1) Engineering, research and development laboratories; (2) Manufacture of electronic equipment and motor drive controls; (3) Renewal parts, motor repair and related customer service activities; and (4) Design, development and manufacture of specialized tools, dies, jigs, fixtures, required by the company's production departments in Cleveland and Ashtabula.

The plant has no windows that open, either in factory or office area, and was purposely designed to be under slight pressure at all times. No exhaust fans are used, the discharge of air from the building being through eight pressure hoods installed in roof over center bay. These open automatically when internal pressure reaches predetermined value.

The new plant, which has 133,000 sq. ft. of floor area, replaces two Reliance plants on East 152nd street, Cleveland.

(*Please turn to page* 298)



a matter of confidence

Specialists who designed this speed reducer entrusted production of its bronze worm gear blank to other specialists.

Foote Bros. Gear and Machine Corporation, Chicago, leading producers of Speed Reducers, Gears, and other quality Power Transmission Components for practically any industrial requirement, identify themselves with the phrase "BETTER POWER TRANSMISSION THROUGH BETTER GEARS."

For over twelve years, Foote Bros. have purchased thousands of ½ pound to 1500 pound non-ferrous gear blanks from National Bearing Division—confidently entrusting their reputation and industry leadership to special foundry skills for which National Bearing is famous.

And Foote Bros. confidence is well placed.

National Bearing's proven ability to mass produce exceptionally fine-grained, non-ferrous castings, free from blow holes and sand inclusions, can be depended upon under even the most exacting engineering and manufacturing specifications.

As a typical customer service-plus, National Bearing Division's engineers and foundrymen recently designed, and produced for customers like Foote Bros., a bronze gear blank that contains even higher physical properties.

Through a new foundry technique, National Bearing imparts greater hardness, finer grain, and more tensile strength to the bronze gear blank ring, to a depth below where the teeth are cut. In addition, this new process gives such extra advantages as higher uniformity, closer tolerances, and economy of stock.

If your product requires special mass-produced non-ferrous castings or bearings, National Bearing Division has the foundry facilities, experience, and skill that will insure better product performance, and may possibly lower product costs through production-run economies. You are invited to write to National Bearing Division for complete information.

AMERICAN Brake Shoe COMPANY

NATIONAL BEARING DIVISION

4940 Manchester Avenue • St. Louis 10, Mo.

PLANTS IN: ST. LOUIS, MO. • MEADVILLE, PA. • NILES, OHIO • PORTSMOUTH, VA. • ST. PAUL, MINN. • CHICAGO, ILL.

use dependable

Pheoll

SCREWS, BOLTS, NUTS

TO HELP END ASSEMBLY PROBLEMS



WIDE SELECTION MEETS MOST NEEDS

The fact that *so many* manufacturers find there are Pheoll stock fasteners that meet exact needs — makes Pheoll stocks the *one source* for you to depend on, too. Our wide range of sizes, metals and finishes simplifies assembly problems; speeds production—because fasteners that fit, make jobs go faster!

ADEQUATE STRENGTH MEANS BETTER COMPLETED PRODUCTS

Pheoll rolled threads and cold formed heads provide maximum structural strength to meet stress and strain. Snug thread mating surfaces assure greater contact with more lasting grip—adding life and service to your assembled products.

FINE FINISH IMPROVES YOUR PRODUCT APPEARANCE

The extra fine head and thread finish of Pheoll quality fasteners improves the salability of your product. They help "dress up" the job! You can select from a wide variety of attractive head types in screws for metal, wood and plastics—nuts with single or double chamfer in various metals and finishes.

Write for Additional Information and Price List.

MAKE PHEOLL YOUR SOURCE FOR: Semst† • Thread Cutting Screws† • Threaded Rods • Wood Screws† • Machine Bolts • Cap Screws • Stove Bolts† • Thumb Screws • Machine Screws†

†Furnished in slotted and Phillips Recessed Head Types

Pheoll MANUFACTURING COMPANY

5700 ROOSEVELT ROAD CHICAGO 50, ILLINOIS

SCREWS • BOLTS • NUTS

Industrial Fasteners and Holding Devices

RESOLUTION OF THE NAEB ON FAIR TRADE LEGISLATION

The National Association of Educational Buyers, comprising 750 member schools, colleges, and universities, hereby submits the following resolution to the Congress of the United States in connection with proposed legislation which would legalize price fixing of commodities by manufacturers.

Be it resolved that the National Association of Educational Buyers is unanimously opposed to price fixing in any form whatsoever for the reasons indicated below:

(1) Price fixing stifles competition and subverts the welfare of the public as a whole to the welfare of a select few.

(2) Price fixing or so-called "fair-trade" legislation is incompatible with our present anti-trust laws because it encourages monopolistic pricing practices, which destroy competition.

(3) Prior to the Supreme Court decision in the Schwegeman Case, 1951, the volume of fair-trade commodities amounted to $15,000,000,000. Impartial studies of commodities sold under fair-trade prices, as compared with the same commodities sold in free-trade areas (Missouri, Texas, and Vermont) indicated that fair-trade prices were 10 to 12% higher. The additional cost to the public as a whole can be estimated therefore as from $1200—$1800 million dollars annually.

(4) A seller (wholesale or retail) who is able through efficient methods to conduct a lower-cost business operation, is entitled to price his goods accordingly for the benefit of the public.

(5) Fair-trade legislation is inconsistent with a free enterprise economy because it tends to insulate sellers from the competitive challenge of maintaining an efficient business operation.

Resolution passed at the Annual Convention of the National Association of Educational Buyers in Washington, D. C., May 9, 1952.

IMPORTANCE OF GRAIN SIZE IN SHEET AND BRASS STRIP

A new concept of the importance of grain size in specifying sheet and strip brass, which points the way to improved alloy workability and production economy for metal goods manufacturers, is put forth in Bridgeport Brass Company's latest publication "The 4th Dimension—Grain Size".

Stressing the relation of grain size to the physical characteristics of an alloy, this four page folder also illustrates by microphotographs how grain structure is affected by annealing and cold rolling.

Copies of the "4th Dimension" folder may be obtained by writing to Sales Promotion Service, Bridgeport Brass Company, Bridgeport 2, Connecticut.

(*Please turn to page* 300)

New XL BOND

FOR CARBIDE TOOL AND CUTTER

Grinding



Another Chicago Wheel FIRST

"XL" is Chicago Wheel's exclusive new bond for silicon carbide vitrified grinding wheels, especially made for grinding carbide cutting tools. Supplied in most popular sizes and steel backs. Prompt delivery. Keep your production up . . . costs down, with "XL."



AVAILABLE NOW FOR PROMPT DELIVERY

Offices in principal industrial centers
Write for Free Information

CHICAGO WHEEL & Mfg. Co.

Dept. P, 1101 W. Monroe St., Chicago 7

wherever
PRODUCTS CAN BE
bettered
BY THEIR BEARINGS

All bearings are designed to eliminate costly friction . . . but only SEALMASTERS can offer the many *extra advantages* that SEALMASTERS' exclusive combination of features gives to your product.

SEALMASTER users report smoother machine operation—with reduced power consumption and minimum maintenance. The proved, all-around efficiency of SEALMASTER Ball Bearing Units is the best assurance of long life and dependable service under even the most difficult conditions.

Write for a copy of Catalog 845 . . . it tells the complete SEALMASTER story.

SEALMASTER
BALL BEARING
UNITS

1. PERMANENTLY SEALED
Felt-lined steel flinger, rotating in labyrinth, excludes dirt and retains proper amount of lubricant.

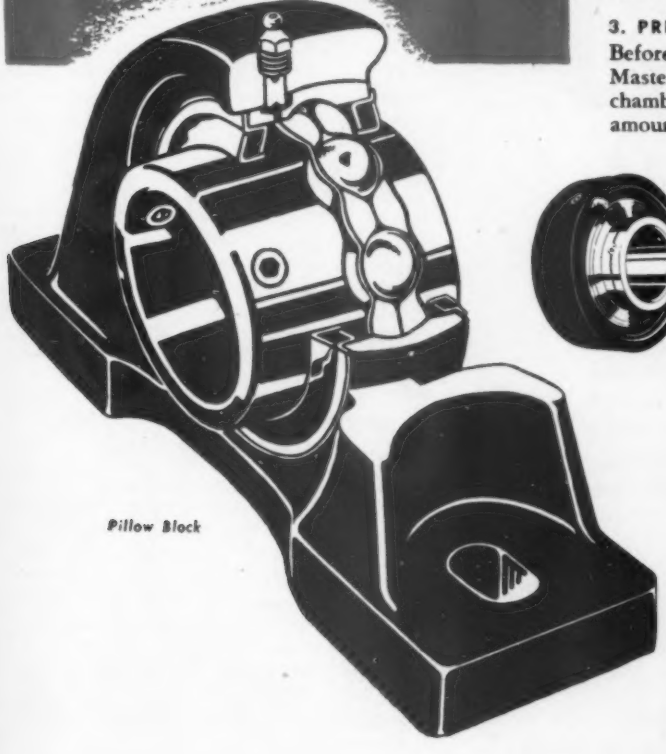
2. SELF-ALIGNING
Bearing unit, with seals independent of housing, can align itself in any direction without seal distortion.

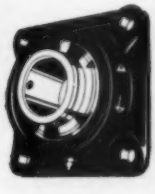
3. PRE-LUBRICATED
Before shipment from the SealMaster factory, the bearing chamber is filled with proper amount of lubricant.

4. NO HOUSING WEAR
Patented locking pin and dimple prevent rotation of outer race in housing. This eliminates housing wear, permits shaft alignment and positions unit for relubrication.

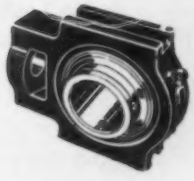
5. FLOATING RETAINER
Ball retainer is designed to float on ground inner surface of outer race. Traps lubricant, prevents churning.

6. HOUSING DESIGN
SealMaster's cast housings combine rigid, one-piece construction with smooth streamlined appearance.



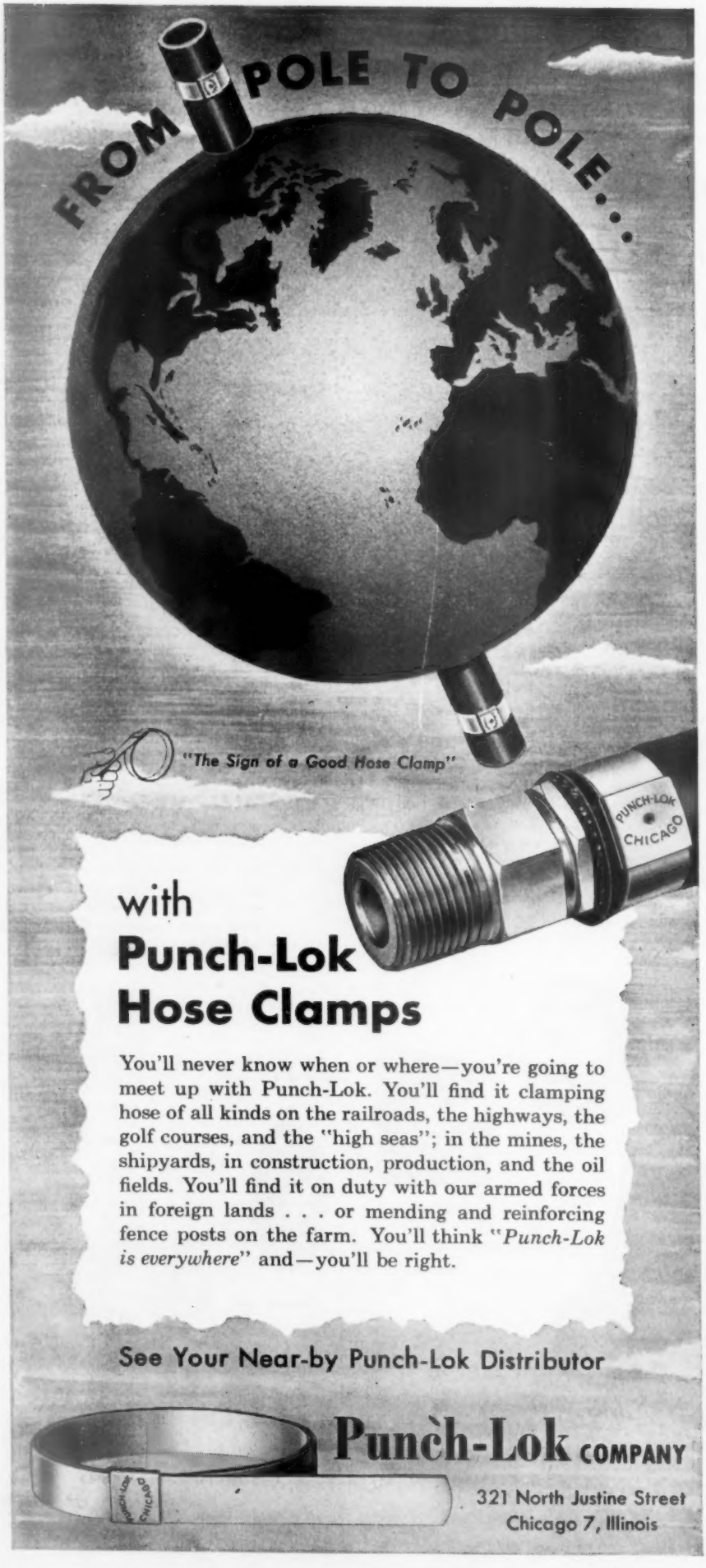






SEALMASTER BEARINGS
51 RIDGEWAY AVENUE, AURORA, ILLINOIS
A DIVISION OF STEPHENS-ADAMSON MFG. COMPANY

FACTORY REPRESENTATIVES AND DEALERS IN ALL PRINCIPAL CITIES



DESCRIBES ALLEGHENY LUDLUM FACILITIES ON WEST COAST

"Allegheny Ludlum Serves the West" is the title of new bulletin which illustrates and describes the company's expanded facilities on the Pacific Coast. Data on equipment and production (types, sizes, materials, etc.) of the Company's Los Angeles forge plant, range of stock in its tool steel warehouses at Los Angeles and San Francisco, and sales and engineering representation in both of these cities and Seattle, are described. Copy of the booklet may be obtained from the Los Angeles Plant, 5333 East Slauson Ave., Los Angeles, the San Francisco Sales Office at 36 Berry Street, San Francisco, or the Seattle Sales Office, 1927 First Avenue, Seattle.

REVISED EDITION OF "BOLT, NUT AND RIVET STANDARDS"

A new 256-page book entitled "Bolt, Nut and Rivet Standards" has just been published by the Industrial Fasteners Institute. This completely revised and enlarged book replaces the first edition issued in 1941, and is the only publication which contains all current standards for commercial fasteners. It was published both to aid production in manufacturers' plants and as a service to users in acquainting them with accepted standards of nomenclature, dimensions, sizes and other practices.

Among the new standards included in the book are those for round head bolts (carriage bolts), plow bolts, track bolts, studs, slotted and recessed screws, socket head screws, small solid rivets, large rivets, unified screw threads, and the newly-adopted square and hexagon bolts and nuts unified dimensionally with Britain and Canada. Also, there is a large section listing weights and stock production sizes; and informative discussions on screw threads, gaging practices, fastener materials, manufacturing processes and a complete list of all recognized fastener specifications.

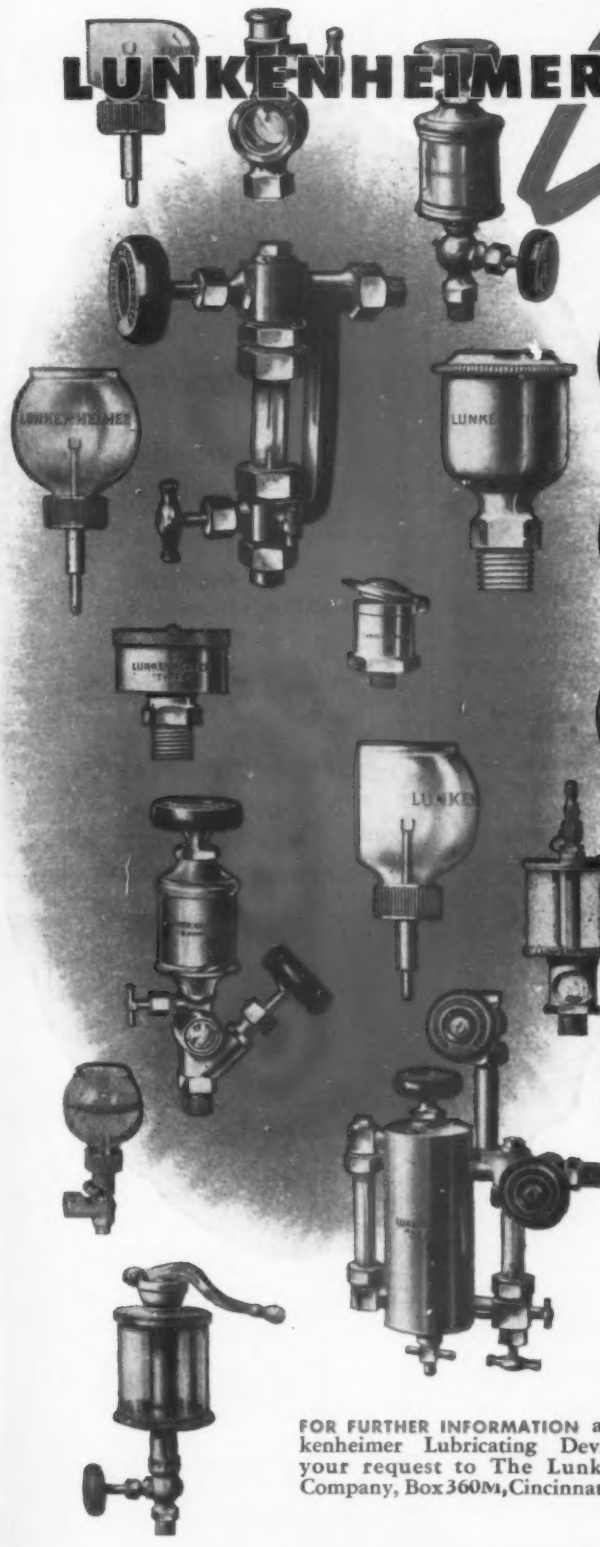
Copies of "Bolt, Nut and Rivet Standards" may be obtained at $3.00 per copy from the Industrial Fasteners Institute, 3648 Euclid Avenue, Cleveland 15, Ohio.

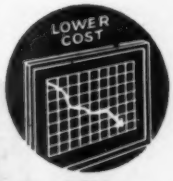
PROPERTIES OF LOW CARBON 8½% NICKEL STEEL

Booklet of 12 pages describes a ferritic steel that is resistant to the embrittling effects of low temperatures (—320°F) and which can be welded and fabricated under somewhat the same conditions as engineering steels. 20 tables and charts depict the mechanical properties and the effects of heat treating and welding. Though low carbon 8½% nickel steel is of special interest to petroleum refining and chemical processing fields, corrosion resisting applications are suggested for it in oil well, pulp and paper, machine tool and other industries. International Nickel, Dept. EZ, New York 5, N.Y.

(*Please turn to page* 302)

LUNKENHEIMER *Lubricating Devices*





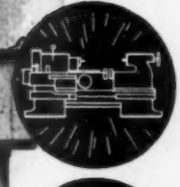
LOWER **Machinery Repair Cost**



REDUCE **Power Consumption**



ELIMINATE **Waste of Lubricants**



CUT **Fire and Accident Hazards**



SAVE **Man-Hours of Maintenance**

And they're built to the same high standards of craftsmanship and quality that you've always associated with Lunkenheimer Valves. Use them to lubricate bearings which are hard to reach and often neglected. Call your local Lunkenheimer distributor for recommendations and literature.

FOR FURTHER INFORMATION about Lunkenheimer Lubricating Devices, send your request to The Lunkenheimer Company, Box 360M, Cincinnati 14, Ohio.

BRONZE • IRON • STEEL

LUNKENHEIMER

THE ONE *Great* NAME IN VALVES

L 1053-A

—and to be on the safe side, Sam— be sure to

SPECIFY P·I·E



PURCHASING AGENT

Modern Motor Freight

minimizes all your problems—assures safe, dependable delivery—"door-to-door." Whether you are on our cross-country line between California and the Midwest, or reached through off-line connecting carriers, your supplier knows you're on the beam when you

"Specify P·I·E"!



P·I·E

PACIFIC INTERMOUNTAIN EXPRESS®

Chicago · St. Louis · Kansas City · Wichita
Denver · Ogden · Elko · Reno · Ely · Pocatello
Salt Lake City · San Francisco · Los Angeles
Sacramento · Oakland · Stockton
Sales Offices: Washington, D. C.
GENERAL OFFICES: 299 ADELINE STREET
OAKLAND 20, CALIFORNIA

OUTLOOK FOR CONSUMER GOODS BRIGHTER THAN A YEAR AGO

Government officials who are searching for shortages of consumer goods as an excuse to extend price and wage controls will have a hard time finding any, according to a survey by the National Association of Manufacturers, which sees the outlook for consumer-goods supplies as even brighter today than a year ago.

In spite of dire predictions by government spokesmen in the last year that additional control powers would be needed to hold down inflationary pressures caused by shortages of goods, the NAM said, the shortages did not appear and a relative stability of prices actually was achieved.

Today, in the face of improved supplies of both consumer soft goods and durable goods, there is less justification than ever for continuing price, wage and material controls, the association said.

Production and not controls was responsible for the relative stability of the price index in 1951, according to the NAM consumer reply report. Noting that a decline showed in 19 product groups while another 19 showed a price rise, the report said:

"For products which registered an increase, controls, obviously have been ineffective; for products which registered a price drop, controls have obviously been unnecessary."

The improved outlook for consumer goods is partly due to the great plant expansion programs by private industry, it was observed—in 1951, we had 87 per cent more capacity than in 1939 and if present plans are carried out, the increase in 1952 will raise capacity to a level more than double that of 1939.

The survey gives the following overall summary of the consumer supply situation:

FOOD—Food, the most important item in the consumer budget, taking about 28 per cent, will be in plentiful supply in 1952. The Department of Agriculture reports sufficient supplies are expected to maintain consumption at least as high as in 1951, and if weather conditions and livestock marketings are about normal, the year's output of food may set a new record.

CLOTHING AND SHOES — The supply outlook for clothing and shoes, representing about 10 per cent of the consumer budget, also is favorable. Consumer demand has not been great enough to keep these industries operating at their peaks; should demand increase, there is substantial leeway for greater production.

HOUSING — Residential building industry has been so active that it has more than kept pace with the growth in population. While there are local difficulties, particularly where new defense plants have been built, the statistics give assurance that there will be no widespread housing shortage in 1952.

MISCELLANEOUS SERVICES — More than 20 per cent of consumer spending goes for such miscellaneous services

(*Please turn to page* 304)

POINT-OF-SALE
COPELAND DISPLAYS

STIMULATE PURCHASES

Distinctive displays in quantity since 1935:

- wood
- metal
- plastic
- motion

CALL

CO 5-5621

COPELAND DISPLAYS, Inc.
537 W. 53 St.
New York, N. Y.

TOOLS WITH TRADITION SINCE 1869



VITALLOY® FORGED WRENCH

BETTER BUY BILLINGS®

VITALLOY® WRENCHES & SHOP TOOLS

THE BILLINGS & SPENCER CO.
HARTFORD 1, CONN.

SEE THE BILLINGS DISTRIBUTOR

YOU STILL CAN HAVE

STAINLESS STEEL QUALITY

WITH *Enduro* TYPE 430



● In many cases, there is no reason today why current restrictions on nickel should deprive products of stainless steel quality. Many items formerly made from 18-8 types still can enjoy the advantages that only stainless steel can afford . . . by converting to Republic ENDURO Type 430.

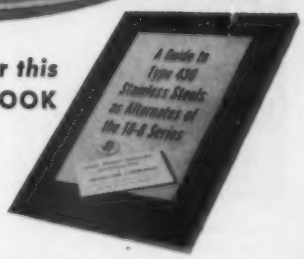
Republic ENDURO Type 430 is not a new stainless steel. It has been in successful continuous service for 28 years in a wide variety of applications. Its corrosion-resistance is exceptionally good. It affords high yield strength. Its resistance to scaling and oxidation at elevated temperatures is high. It can be fabricated by all modern methods.

Many manufacturers already have converted to Type 430 or one of its modifications. Others are making plans to do so. Why don't *you* talk to a Republic Stainless Steel Metallurgist —and learn just how Type 430 can help you maintain stainless steel quality in your product? Contact your nearest Republic District Sales Office or write us.

REPUBLIC STEEL CORPORATION
Alloy Steel Division • Massillon, Ohio
GENERAL OFFICES • CLEVELAND 1, OHIO
Export Department: Chrysler Building, New York 17, N. Y.

Republic
REPUBLIC STEEL
ENDURO STAINLESS STEEL

Send for this NEW BOOK



You'll find it filled with facts to help you consider conversion to Type 430—*fast*. Write to: Republic Steel Corporation, 3110 E. 45th Street, Cleveland 27, Ohio.

Other Republic Products include Carbon and Alloy Steels—Pipe, Sheets, Tubing, Lockers, Shelving, and Fabricated Steel Building Products



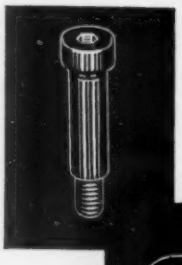
BLUE DEVIL
SOCKET SCREW PRODUCTS



Cap Screw

finest

Whether your application is delicate precision apparatus or huge rugged machine tools, you'll find no finer socket screws on the market than Blue Devil! Write today for the complete Triple-Ess Catalog . . . or see your distributor.



Stripper Bolt



Flat Head Cap Screw



Pipe Plug



Set Screw

SAFETY SOCKET SCREW COMPANY
6502 AVONDALE AVENUE • CHICAGO 31, ILLINOIS

SOLD THROUGH AUTHORIZED INDUSTRIAL DISTRIBUTORS



Actual cross-section photo shows structural continuity of Blue Devil cap screw from body to head.



SOCKET SCREWS EXCLUSIVELY!

(*Continued from page* 302)

and medical care, utilities, transportation, laundry, barber and beauty shops, etc. Here no scarce materials are involved, and the mobilization program as it stands should lead to no significant shortage of manpower in these services.

CONSUMER DURABLES — While the impact of mobilization necessarily is greater on consumer durables than on soft goods, the supply outlook is generally good. These expenditures amount to only about 14 per cent of the total consumer budget. Production of all major consumer durables in the early part of 1952 will be below the abnormal peak levels of 1950 and 1951, but high compared with other years. In addition, consumers are better-stocked with durables than ever before.

In testimony before the House Banking and Currency Committee, NAM President Wm. J. Grede said that, "the record against economic controls is overwhelming."

"Only harm to our economy and thus to our mobilization effort can come from the continuation of price, wage and civilian material controls. They impede production, impair incentives and increase costs both for industry and government, and they require tons of useless red tape. They lead to demands for ever more controls to attempt to shore up the inevitable failures of existing controls."

STANDARDIZATION CONFERENCE PROCEEDINGS NOW AVAILABLE

Proceedings of three-day Second National Standardization Conference, held in New York last October, have just been published by the American Standards Association. Titled "Strengthening America Through Standards," the published work runs to 64-pages and contains 21 addresses made at the Conference.

Reprinted addresses include Ex-President Herbert Hoover's acceptance of the Howard Coonley Medal for work in standardization; an introduction of Mr. Hoover by Robert E. Wilson, chairman of Standard Oil Co. (Indiana); and a keynote speech by D. A. Hulcy, president of the Chamber of Commerce of the U.S.

Among the subjects covered by other speakers are: standards for engineering schools; industrial standards for defense production; electrical standards as an aid to purchasing; the operations of ASTM; railway research in standardization; the role of administrative standards in business and industry; the National Electrical Code; the National Plumbing Code; and materials conservation.

Also included is an extensive report on a successful research program carried out by the Porcelain Enamel Institute for reducing transportation breakage losses through pre-shipment tests.

Transcriptions of several question-and-answer discussion periods are reprinted.

The booklet is sold by American Standards Association, 70 East 45 Street, New York 17, for $1.

(*Please turn to page* 306)

Assembly Problem?

Use Black & Decker Screw Drivers for faster work, tighter assemblies, fewer rejects, less operator strain!



New No. 12 Positive Clutch SCRUGUN*

WHATEVER your assembly problem . . . pick the tool with the *correct* power, speed and capacity to solve it . . . from the big, diversified Black & Decker Screw Driver Line! Choose from 21 models for driving everything from No. 4 screws to 5/8" diam. nuts . . . models with positive clutches for "free-hand" driving . . . with adjustable clutches for driving to uniform, predetermined tightness . . . with 90° angle heads for working in close quarters or around corners.

Heft a B&D Screw Driver and see why its balance, compactness and light weight mean easy handling. Pull its trigger switch and feel the surge of power that spells top-speed performance. Check its quality-built features and get the reasons why it turns out accurate, uniform work. See your nearby Black & Decker Distributor for a demonstration, for expert help on any assembly problem. Write for free catalog to: THE BLACK & DECKER MFG. CO., 664 Pennsylvania Ave., Towson 4, Maryland.

*Trade Mark Reg. U. S. Pat. Off.

BLACK & DECKER 33 Factory Branches SERVICE

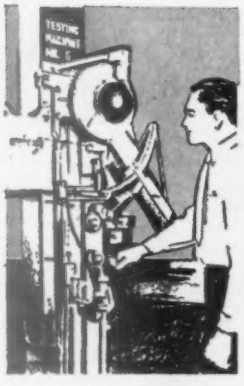
. . . use them to save time, trouble, money!

LEADING DISTRIBUTORS EVERYWHERE SELL

B&D Black & Decker PORTABLE ELECTRIC TOOLS



UNLIMITED!



Johnson XLO Music Wire, "the wire of a thousand uses" —high-grade springs and wire forms difficult of formation. Johnson makes this wire better in order that your products may be better. Where service required is exacting, you can depend on Johnson XLO Music Wire.

"Johnson Sets the Standard of the Industry"

JOHNSON

JOHNSON STEEL and WIRE CO., INC.

Worcester 1, Massachusetts

New York Philadelphia Detroit Akron Chicago
Atlanta Houston Tulsa Los Angeles Toronto

FRASSE DISTRIBUTES ACIPCO CENTRIFUGAL CAST TUBING

Peter A. Frasse and Co., Inc., has announced its distributorship for ACIPCO centrifugal cast tubing manufacured by the Special Products Division, American Cast Iron Pipe Co. Adding this ACIPCO product to their already extensive tubing line, Frasse can now supply tubes in sizes up to 50" O.D.

A new Frasse engineering memorandum covers in detail the characteristics, properties, analyses, applications and pertinent facts of ACIPCO centrifugal cast tubing.

Made in sizes ranging from 2" O.D. to 50" O.D., with wall thicknesses from ¼" to 4", ACIPCO tubes can be had in lengths up to 16 ft. long.

All ASTM, AMS, Federal, ABS, ACI, AISI and other U.S. Government Specifications are easily met, as ACIPCO tubing is made in any standard or non-standard analysis.

Applications such as shaft rolls, retorts, hydraulic cylinders, etc., and industry requiring heavy wall tubing can be economically serviced with ACIPCO tubing.

Complete information is given in Frasse Engineering Memorandum #11. Copies can be obtained by writing Peter A. FRASSE and Co., Inc., 17 Grand Street, New York 13, N.Y.

WARNS AGAINST RUBBER SHORTAGE

Although there is currently an ample supply of rubber, P. W. Litchfield, board chairman of The Goodyear Tire & Rubber Co., recently issued a statement warning against a shortage soon to come and urged that a program to meet this situation be mapped out at once.

He recommended expansion of the nation's synthetic rubber industry, creation of a synthetic rubber stockpile of 200,000 tons and additional plantings of natural rubber in the Western Hemisphere, to yield 150,000 more tons annually, as steps in that direction.

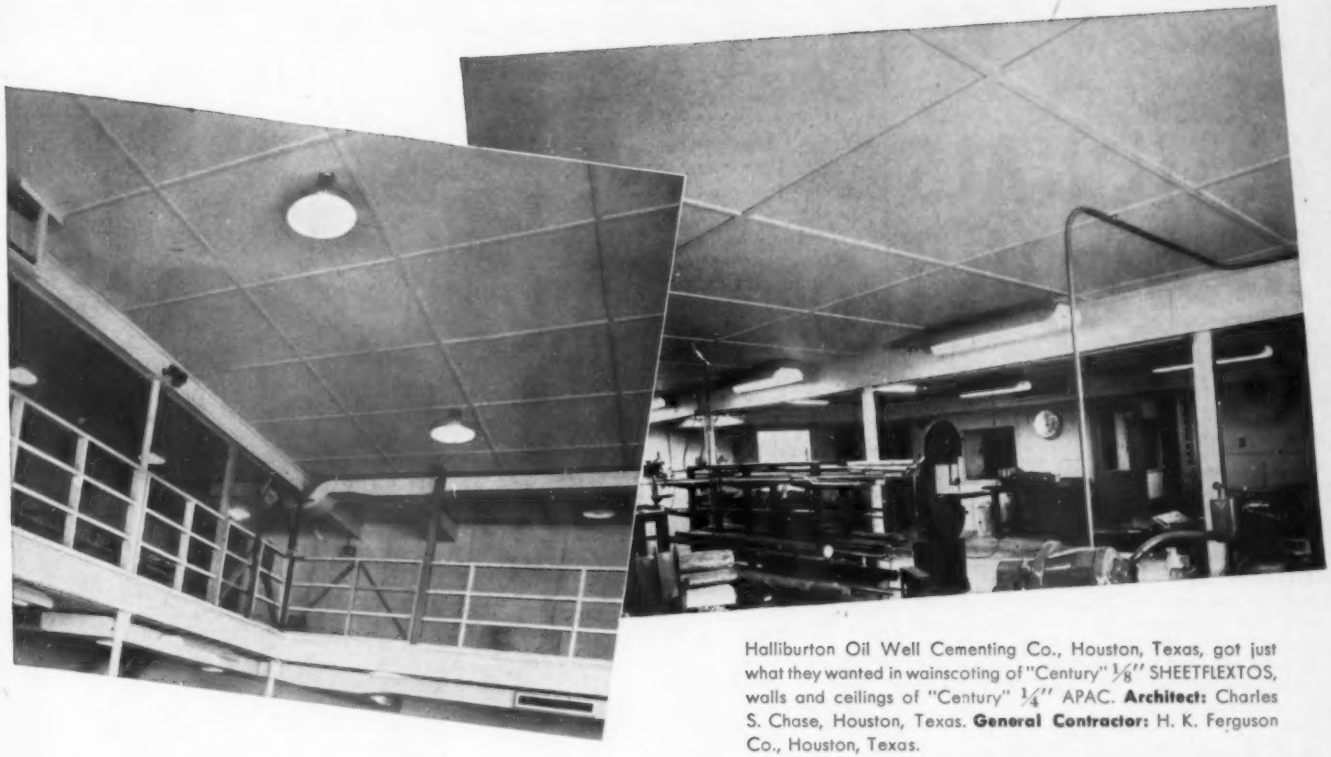
"We should begin now to lay out a national program of synthetic rubber expansion. It should be developed in such manner as to assure the presence of additional capacity in advance of the actual need. Existing plants should be made ready while there is still time for orderly thinking. This preventive approach to the problem of growing demand will spare us the ordeal of more drastic remedies later on."

Present synthetic plants can be modernized to provide capacity for the reserve stockpile and this program can be put into effect quickly as a cushion against the time when rubber demand exceeds supply, he said.

The Goodyear board chairman pointed out that natural rubber is a highly volatile commodity which over the years has witnessed an almost incessant game of leap frog between supply and price.

These violent fluctuations, he emphasized, strike hard at the American pocketbook while our national attitude

(*Please turn to page* 308)



Halliburton Oil Well Cementing Co., Houston, Texas, got just what they wanted in wainscoting of "Century" 1/8" SHEETFLEXTOS, walls and ceilings of "Century" 1/4" APAC. **Architect:** Charles S. Chase, Houston, Texas. **General Contractor:** H. K. Ferguson Co., Houston, Texas.

Walls without worries

. . . ceiling without overhead

with **"CENTURY"**

ASBESTOS-CEMENT SHEETS

Halliburton Oil Well Cementing Co. wanted strong, good-looking walls and ceilings that would be *fire-resistant* and *easy to clean*. That's why they chose "Century" SHEETFLEXTOS for wainscoting applied over solid sheathing and "Century" APAC secured right to studs and joists for upper walls and ceilings.

Fire-resistance, of course, is an outstanding feature of these structural boards, combined as they are of virtually indestructible asbestos fiber and portland cement. Ease of cleaning, too, comes "naturally" to their hard, smoothly-textured surfaces that can't be hurt by water, dampness, or rot, and need no protective painting.

But look at the *extra* features that go with "Century" APAC and SHEETFLEXTOS. Both Sheets are also resistant to rodents, immune to termites. They go on fast, in big sheets (standard 4′ x 8′) that can be cut or drilled on the job, and fastened easily with screws or ring-fettered nails. They obviate the need for laths and plaster, and, while they require no painting at all, they take decorative colors well. SHEETFLEXTOS, as its name implies, has the added advantage of flexibility, to make curves and domes where indicated.

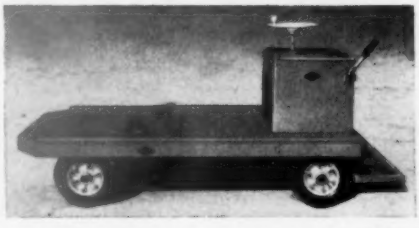
Both "Century" APAC and "Century" SHEET-FLEXTOS make good surroundings for successful work and enjoyable living. Figure on one or both for your attractive, fire-resistant interiors. Write us for further details about these economical products . . . and name of your nearest distributor.

Nature made Asbestos . . .
Keasbey & Mattison has made it serve mankind since 1873

K&M best in asbestos

KEASBEY & MATTISON
COMPANY • AMBLER • PENNSYLVANIA

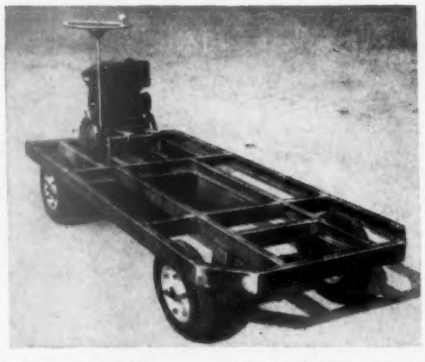
Save $$$$ on MATERIALS HANDLING



With a carrying capacity of 2000 lbs., CON-SOL's new industrial truck means savings in first cost, operation, and maintenance. It is ideally suited for a great variety of jobs in warehouses, factories, airports, supply depots, docks, and railway and truck terminals.

• Check these features...

21 sq. ft. of hardwood loading surface. Removable stanchions 24" high stowed in rack under platform. Room on each side of engine housing for carrying long tubing, boards, etc. Reliable and economical Briggs & Stratton 3.10 H.P. engine has starting crank, and oversize muffler for quiet operation. Chain drive permits speed variation by choice of sprocket size.



Exceptionally rugged, its frame is of 3" channel steel, electrically welded. Simple and safe to operate, thanks to its riding platform, over-size disc brake, foot-operated accelerator, single lever transmission control, and steering wheel with spinner for easy control. Readily maneuverable, with its short 14 ft. turning radius. Quiet in operation, because of its large pneumatic tires and engine muffler. These quality features are usually found only in more expensive trucks.

Dealers' inquiries invited.
Write for full information, Dept. PU.

CON-SOL TRADE MARK

CONSOLIDATED INDUSTRIES, INC.
WEST CHESHIRE, CONN., U. S. A.

(*Continued from page* 306)

toward rubber veers sharply between complacency and near panic.

Today's improved rubber outlook, it was pointed out, follows close on the heels of the drastic shortage which began shortly after Korea and continued through 1951, with natural rubber prices soaring from a low of 18 cents per pound to a high of 84 cents at the peak.

"This pinch," said Litchfield, "cost American consumers millions and millions of dollars as well as great inconvenience; and a substantial part of this could be charged to our own failure properly to utilize our national facilities for the production of synthetic rubber.

"If the current easing up period induces recurrence of our habitual weakness for procrastination and indecision in matters of national rubber policy, then we are due for another rude awakening. And, this time, I mean very, very rude."

Current available supply of rubber to meet world needs, said Litchfield, is 2,750,000 long tons annually. It is made up of 1,000,000 tons of synthetic capacity and 1,750,000 tons from existing stands of natural rubber trees.

World requirements for 1952 will be approximately 2,335,000 long tons, thus leaving a statistical surplus of around 415,000 tons.

"But," warned Litchfield, "judged by historic trends and forces now in evidence, total requirements are going to continue to climb. By 1955, world requirements of new rubber may be 150,000 tons in excess of today's total capacity. By 1960, it is accepted in informed circles, that world requirements will be not less than 400,000 long tons and possibly as much as 1,500,000 long tons in excess of our present potential capacity.

"So the next big squeeze is not too far around the corner."

Even with increased planting of natural rubber, this source alone cannot meet our growing needs, said Litchfield, and we can look only to synthetic rubber production for the major part of the answer.

* * *

UNGROUND HOBS MADE TO CLOSE TOLERANCES

Michigan Tool Company, 7171 E. McNichols Road, Detroit, reveals that it now has in full scale operation, a new process for the manufacture of accurate unground hobs to close tolerances. While details of the process are not being revealed, the company claims that the process does make it possible to use unground hobs today in many applications where only ground form hobs were formerly considered suitable.

Hobs produced with the new process—both single-thread and multiple-thread types—are no higher priced, Michigan Tool states, than "accurate unground" hobs previously manufactured by the company and represent a considerable saving, where usable, over ground form hobs.

Unground "roughing" hobs are also being produced by the new process, the announcement reveals.

Complete Information for the INDUSTRIAL BUYER



Thousands of Industrial Buyers Prefer This Directory

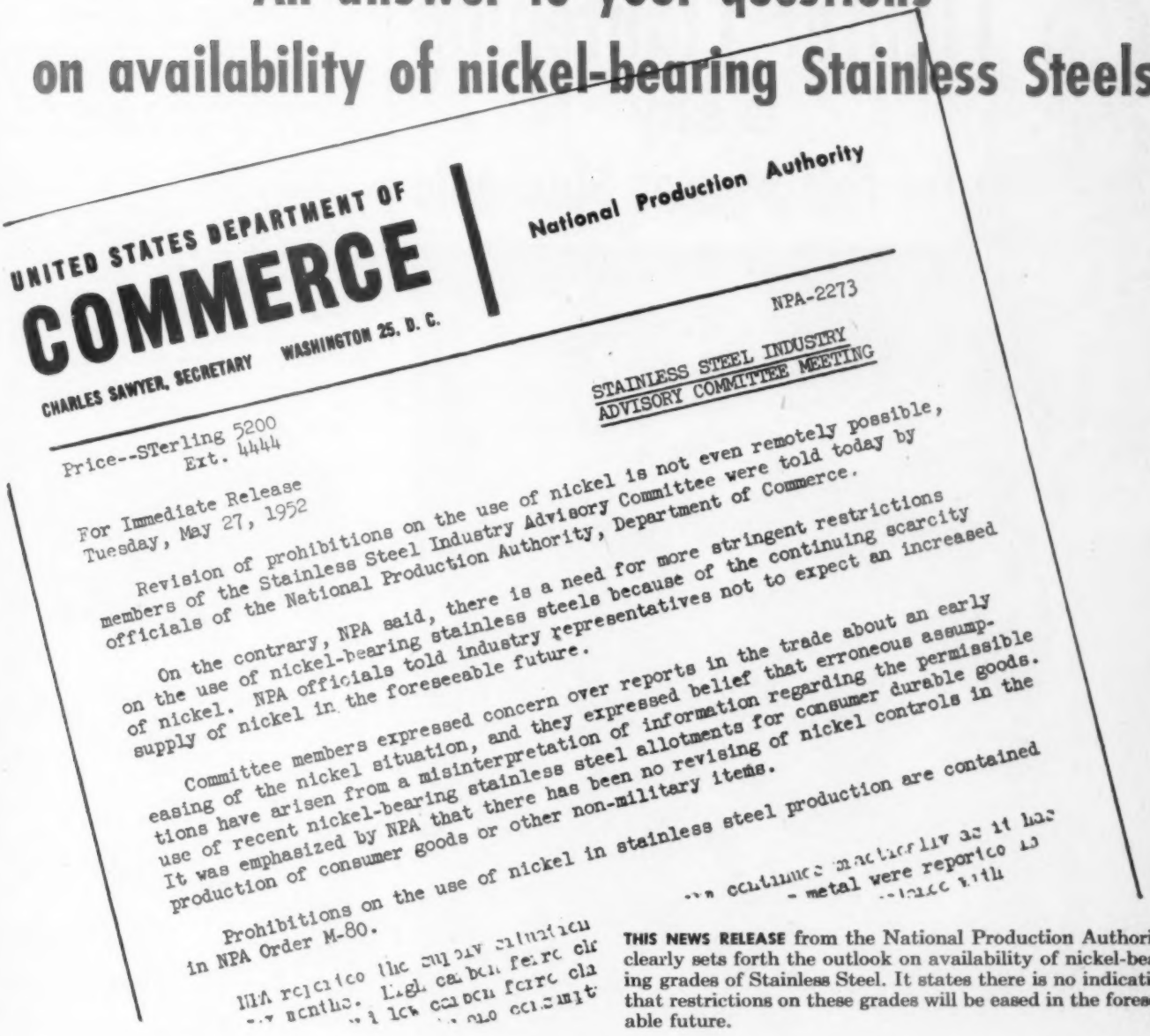
With only the industrial buyer in mind, CONOVER-MAST PURCHASING DIRECTORY carries only listings and product facts on the equipment, parts, supplies, and materials needed by industry. Rigidly excluding all nonindustrial listings and advertisements, the Directory is kept compact—it is easy to keep handy and use, yet it is complete. Besides, it has 35 pages of useful information and tables for the buyer which he will not find in other directories.

Use the CONOVER-MAST PURCHASING DIRECTORY—you'll soon find that the complete cross references make it the easiest and quickest way to locate the suppliers of any item you buy. The more you use it, the better you'll like it.

The Most Convenient Industrial Buyers' Guide for Production, Purchasing, and Engineering Executives.

Conover-Mast PURCHASING DIRECTORY
737 N. Michigan Ave., Chicago 11, Ill.

An answer to your questions on availability of nickel-bearing Stainless Steels



UNITED STATES DEPARTMENT OF
COMMERCE
CHARLES SAWYER, SECRETARY WASHINGTON 25, D. C.

National Production Authority

NPA-2273

STAINLESS STEEL INDUSTRY
ADVISORY COMMITTEE MEETING

Price--STerling 5200
Ext. 4444

For Immediate Release
Tuesday, May 27, 1952

Revision of prohibitions on the use of nickel is not even remotely possible, members of the Stainless Steel Industry Advisory Committee were told today by officials of the National Production Authority, Department of Commerce.

On the contrary, NPA said, there is a need for more stringent restrictions on the use of nickel-bearing stainless steels because of the continuing scarcity of nickel. NPA officials told industry representatives not to expect an increased supply of nickel in the foreseeable future.

Committee members expressed concern over reports in the trade about an early easing of the nickel situation, and they expressed belief that erroneous assumptions have arisen from a misinterpretation of information regarding the permissible use of recent nickel-bearing stainless steel allotments for consumer durable goods. It was emphasized by NPA that there has been no revising of nickel controls in the production of consumer goods or other non-military items.

Prohibitions on the use of nickel in stainless steel production are contained in NPA Order M-80.

THIS NEWS RELEASE from the National Production Authority clearly sets forth the outlook on availability of nickel-bearing grades of Stainless Steel. It states there is no indication that restrictions on these grades will be eased in the foreseeable future.

Take advantage of available straight-chromium grades

MANY manufacturers are finding the answer to their material problems in such straight-chromium grades as U·S·S 17 (Type 430) and U·S·S 12 (Type 410) Stainless Steel. Through use in the fabrication of a wide variety of products, these grades have proved themselves acceptable alternates for nickel-bearing grades, and they are currently available without CMP tickets.

Working properties of these straight-chromium grades differ in some respects from those of the nickel-bearing Stainless Steels, but they present no unusual problems. Our representatives will be glad to advise your designers and production men in the selection and fabrication of available straight-chromium grades.

Don't delay in getting the complete story on U·S·S 17 and U·S·S 12 Stainless Steel. Depending on fabrication procedures and end use of your product, they may be the key to uninterrupted production. For complete information, contact your nearest United States Steel sales office, or write directly to United States Steel Company, Room 2803W, 525 William Penn Place, Pittsburgh 30, Pa.

UNITED STATES STEEL COMPANY, PITTSBURGH · AMERICAN STEEL & WIRE DIVISION, CLEVELAND · COLUMBIA-GENEVA STEEL DIVISION, SAN FRANCISCO
NATIONAL TUBE DIVISION, PITTSBURGH · TENNESSEE COAL & IRON DIVISION, FAIRFIELD, ALA. · UNITED STATES STEEL SUPPLY DIVISION, WAREHOUSE DISTRIBUTORS
UNITED STATES STEEL EXPORT COMPANY, NEW YORK

U·S·S STAINLESS STEEL

SHEETS · STRIP · PLATES · BARS · BILLETS · PIPE · TUBES · WIRE · SPECIAL SECTIONS

2-1402

UNITED STATES STEEL



Tighter Tightening is easy for this Master Mechanic



BRISTOL'S SOCKET SCREWS

Order BRISTOL'S SOCKET SCREWS Hex and Multiple-Spline . . . cap and set styles *from your distributor*.

The Strength of CUSTOM-MADE for the Price of "Regular"

FREE SAMPLES and socket screw catalog. Address THE BRISTOL COMPANY, Mill Supply Division, 124 Bristol Road, Waterbury 20, Conn.

LARGE PLASTIC HOUSING FOR AIR CONDITIONING UNIT

A one-piece plastics housing for the Philco Corporation's new model one-third hp window-type air conditioner is being molded at the Taunton, Mass., plant of General Electric's Plastics Department.

Measuring 26 inches long, 13 inches wide, and 12 inches deep, the housings are being molded of phenolic compounds. Some will be produced in a mottled walnut finish, and for Philco's deluxe model, the housings will be painted ivory. Louvres for the direction of cooled air are molded in. Produced in a 1,300-ton compression press from molds weighing six tons, the housings weigh 9 lbs.



The housing is 26" long, 13" wide and 12" deep.

It is forecast by G-E officials that plastics housings for window air-conditioning units will rapidly grow in popularity with the expanding window air-conditioning market. Incorporating design flexibility, corrosion resistance, sound-damping characteristics, and colorability, plastics are ideal for the application. New large injection presses, thoroughly capable of producing large housings, will undoubtedly be investigated by air-conditioning manufacturers it was stated.

PACKAGING CHANGE SAVES METAL, CASH

Future procurements of gelatin dessert powder for domestic consumption by the Armed Forces will be made in paper-board containers instead of the metal cans or paper-board canisters with metal ends formerly used, the Army Quartermaster Corps, has announced.

Savings estimated at more than $40,000 a year will result from buying these products packed in a 24-ounce commercial-type paper-board container.

A study is being conducted as to the practicability of 24-ounce, commercial type, paper-board containers for overseas use.

Until tests have proven that such containers insure proper protection and stability, however, overseas requirements will continue to be procured in five-pound metal cans.

A 325,000-pound procurement of the dessert powder in the new 24-ounce package is now being processed by the Chicago Quartermaster Depot.

(*Please turn to page* 312)

America's Flagship . . .

The S. S. UNITED STATES

. . . a $70,000,000 investment protected by REPUBLIC FIRE HOSE

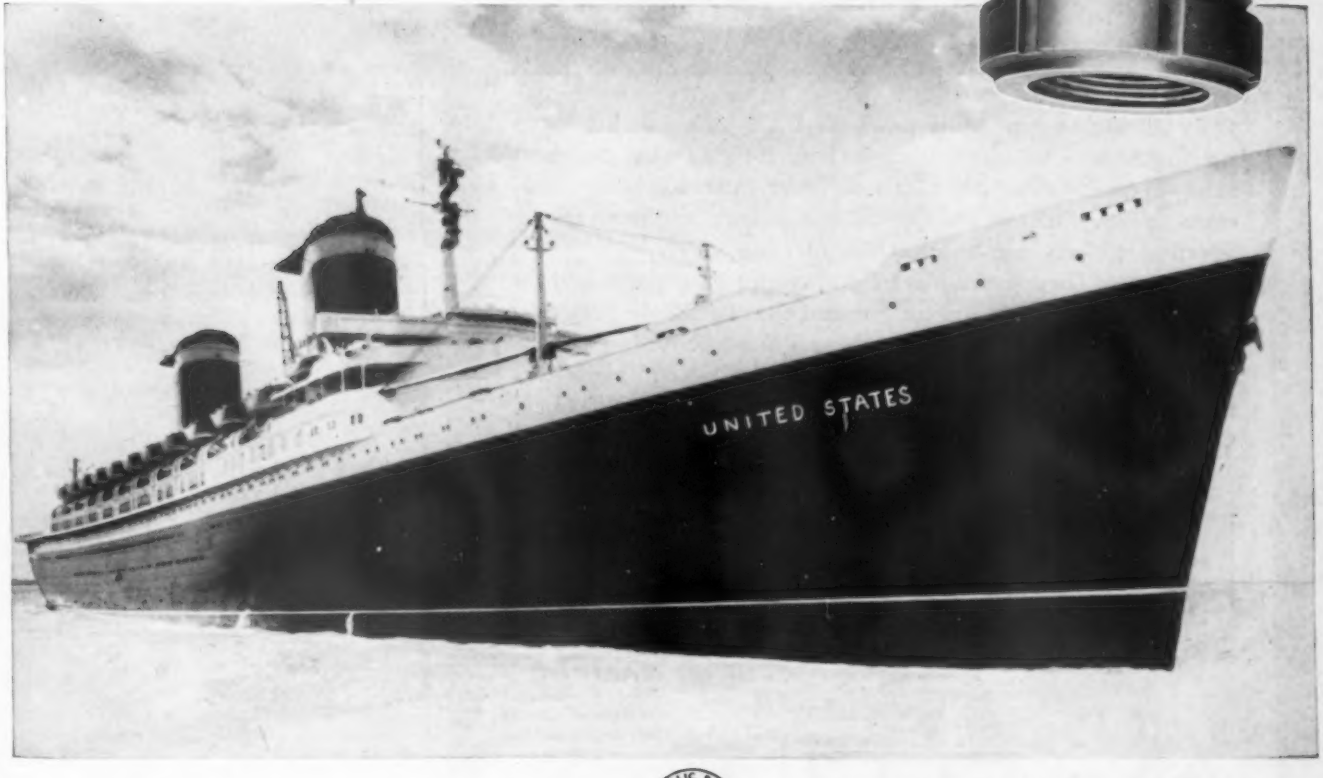
This luxuriously appointed goliath is the largest steamship ever built in our country. It is also one of the world's largest structures of any kind—afloat or ashore!

Designed by the famous naval architects, Gibbs & Cox, Inc., and built by the country's foremost shipbuilders, Newport News Shipbuilding and Dry Dock Company, the S.S. United States will soon be ready to challenge all comers for speed, comfort and safety of travel across the North Atlantic.

Republic Rubber is proud to have served the builders of this great ship. The thousands of feet of Republic Fire Hose selected for duty aboard this vessel will provide the highest degree of safety for passengers, crew and cargo.

We hope the hose never sees action. But should necessity arise you can bet it'll turn in an outstanding performance—typical of all Republic Industrial Rubber Products!





INDUSTRIAL RUBBER PRODUCTS BY
REPUBLIC RUBBER DIVISION
Lee Rubber & Tire Corporation
YOUNGSTOWN, OHIO

• The supership United States is built to carry 2,000 passengers, a 1,000-man crew and to convert, if necessary, into a transport for 14,000 troops. Secret features of design enable the 4½-block long leviathan to steam 10,000 miles without refueling. The Republic Fire Hose used on this installation is built with long-lasting rubber tube surrounded by a double jacket of flawless cotton fabric.

Here's the Jack you need for **POWERFUL LIFTING**

...IN LOW HEIGHT AREAS



DUFF-NORTON

NO. 2510-C-2

JOURNAL JACK

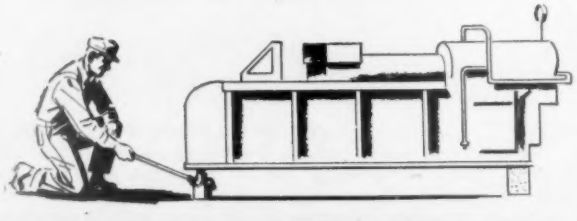
Only 10 inches high, this powerful little jack will lift loads up to 25 tons as much as 5 inches. Its correctly designed screw-type construction allows it to be operated with minimum effort. Due to the jack's low height and convenient handles, it easily can be spotted under low loads.

Several of these jacks placed throughout your plant will do wonders to reduce worker fatigue and eliminate back-breaking effort in many heavy lifting and equipment-moving jobs.

Other Duff-Norton Journal Jacks are available in capacities from 15 to 50 tons, for lifting loads from 2½ to 5 inches. Closed heights range from 7 to 10 inches.

QUICK REFERENCE DATA

JACK NUMBER	CAPACITY TONS	HEIGHT INCHES	RAISE INCHES	BASE DIAM. INCHES	HEAD DIAM. INCHES	WEIGHT POUNDS
2510-C-2	25	10	5	5⅜	3	36



WRITE for Bulletin AD-12 K. . . . for additional details on Duff-Norton Journal Jacks.

THE **DUFF-NORTON** MANUFACTURING CO.

MAIN PLANT and GENERAL OFFICES, PITTSBURGH 30, PA.—CANADIAN PLANT, TORONTO 6, ONT.

"The House that Jacks Built"

RAILWAY EXPRESS COSTS VS PARCEL POST COSTS

There has been a great deal of conjecture and figuring done recently by organizations in some industries about the comparative costs of shipping large packages by Railway Express or a number of smaller ones by parcel post. Railway Express Agency contracted with an independent survey organization to find out the actual facts as a guide in its own selling and business building program.

Here is what it found in general from a large number of shippers and the examples given below are the results of studies made of some organizations which maintain close cost accounting of their shipping rooms.

For example let us assume that a 70 lb. shipment is destined to move from one first class post office community to another in zone 6 and the shipper wishes to place a valuation of $50.00 on the goods. To move by parcel post the consignment must be packed in four cartons, three of 20 lbs. each and one of 10 lbs. To keep the comparison even it was assumed that each 20 lb. package is valued at $15.00 and the 10 lb. package at $5.00. It was also assumed that the shipper is within the pickup and delivery limits of Railway Express Agency.

Here is the way the charges compare in the survey:

	Parcel Post	REA
Transportation	$7.04	$7.75
Containers	1.00	.25
Packing	.20	.05
Labor	.28	.07
Insurance	.50	..
Valuation Charge	..	..
Cartage	.40	..
Totals	$9.42	$8.12

Another study was made of a shipment weighing 50 lbs. destined to a point in zone 4 with a valuation of $60.00. By parcel post it will require 3 packages, 2 of 17 lbs. and 1 of 16 lbs. The assumed valuation of each is placed at $20.00.

Here is a comparison of the charges:

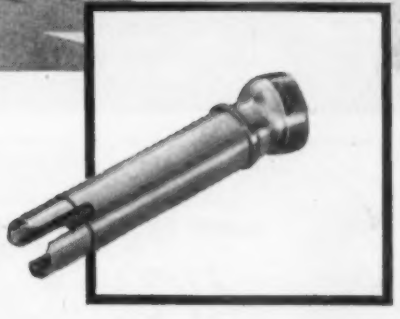
	Parcel Post	REA
Transportation	$2.81	$4.07
Containers	.75	.25
Packing	.15	.05
Labor	.21	.07
Insurance	.45	..
Valuation Charge	..	.15
Cartage	.30	..
Totals	$4.67	$4.59

Railway Express Agency emphasizes several strong advantages of their service for which there is no extra cost above their rates such as; the convenience of shipping collect, thus eliminating any investment in postage stamps; a valuation of $50.00 per shipment or 50¢ per lb. on shipments weighing over 100 lbs. is allowed at no extra cost; free pickup service within established limits—and almost all big shippers are

(*Please turn to page* 314)



this "sleeve" gives valves a steady hand



For clock-like precision in up-and-down motion, valve tappets require smooth-as-glass guides—"sleeves" tailored to 5/10,000 of an inch for snug, exact fit. For such precision work with a variety of products, leading manufacturers depend on Lycoming's production skill and resourcefulness.

Whether you require precision machining, high-volume production, product development—or air-cooled power for aircraft or ground applications—look to Lycoming! Long famous for aircraft engines, Lycoming offers extensive facilities and well-rounded experience.

To function precisely, an aircraft engine valve needs steady tappets. For a "guide" to steer tappets true, **Pratt & Whitney Aircraft called on Lycoming for precision production.**



For a more complete story on Lycoming's varied activities and facilities, write—on your company letterhead—for the interestingly illustrated booklet "Let's Look at Lycoming."

AIR-COOLED ENGINES FOR AIRCRAFT AND INDUSTRIAL USES • PRECISION-AND-VOLUME-MACHINE PARTS • GRAY-IRON CASTINGS • STEEL-PLATE FABRICATION

LOOK TO **LYCOMING** FOR RESEARCH FOR PRECISION PRODUCTION

LYCOMING-SPENCER DIVISION, WILLIAMSPORT, PA.
BRIDGEPORT-LYCOMING DIVISION, STRATFORD, CONN.

AVCO MANUFACTURING CORPORATION



FOR MORE STEEL SOONER

KEEP YOUR SCRAP MOVING

COLD FINISHED STEEL
Controlled CARBON and ALLOY

WYCKOFF STEEL COMPANY

FIRST NATIONAL BANK BUILDING • PITTSBURGH 30, PA.
3200 S. KEDZIE AVENUE • CHICAGO 23, ILLINOIS
Works: Ambridge, Pa. • Chicago, Ill. • Newark, N. J. • Putnam, Conn.

RESERVE YOUR COPY NOW

NEW SET SCREW CATALOG ITS FREE!



Ready Soon; newest catalog of Setko Set Screws with all style heads and points in all metals. Includes data on ZIP-GRIP* Self-Locking Set Screws used for excessive vibration and the *new* Super Nu-Cup Set Screw which gives increased holding power with the same setting torque. Catalog gives latest dimensional data, list prices and technical data from plant with 17 years of specialized experience in supplying billions of set screws to nearly 1300 manufacturers. Simply Write Your Name and Address in Margin and Mail, Now!
*Pat. Pending

Send for FREE DEMONSTRATOR —that demonstrates ZIP-GRIP's* three-way Self-Locking effect. We'll also include illustrated Data Sheet and offer of Test Samples to fit your application. Send now.

Set Screw & Mfg. Co.
142 Main St. Bartlett, Ill. (Chicago suburb)

We specialize in Solving Puzzling Set Screw Problems.

6016

(*Continued from page* 312)

within these limits; an express shipment may consist of one, two or more packages carrying one overall charge with the protection of a receipt throughout the whole transaction; and the express agency gives a receipt to the shipper and takes one from the consignee.

When shippers who employ strict cost accounting methods for the shipping room find that the actual cost of breaking down large shipments into smaller ones to take advantage of lower parcel post rates raises the whole shipping cost above express it is reasonable to assume that it applies to those who have a less accurate knowledge of their daily shipping room expense.

YALE AND TOWNE ESTABLISH TRI-ROTOR PUMP SERVICE CENTER

The publication of a new 38-page catalogue of its line of Tri-Rotor Pumps and the establishment of a Tri-Rotor Pump Repair Parts and Service Center have been announced by the Stamford Division of the Yale & Towne Manufacturing Company, Stamford, Conn.

The new 38-page Tri-Rotor Pump catalogue contains information on the various models in the Yale & Towne pump line, ranging from 20 gallons per minute to 200 gallons per minute. The catalogue has detailed explanations of the operations of the pumps, descriptive matter on pump accessories, and descriptions of the combinations and permutations which are possible with these accessories.

An interesting feature of the catalogue is a complete section devoted to engineering data helpful to a prospective user in determining the size of pump to be used and the method of installation.

The newly-established Repair Parts and Service Center at the Stamford Division will maintain a stock of repair parts, to provide very rapid repair service. A feature of the Service Center will be the rigid test procedure to which each Tri-Rotor Pump will be subjected before return to the customer.

STATES LEAN HEAVILY ON FIVE TAX SOURCES

State governments have practically doubled collections from five principal tax sources since the war, according to a review of state tax trends, issued by Commerce Clearing House, factual law reporting organization.

Gasoline, motor vehicle, sales and use, income, and tobacco tax collections rose to a total of $6,668 million in 1951, amounting to 65 per cent of all the state taxes collected in that year. This compares with a 1946 total for the five taxes of $3,389 million, or 56 per cent of the states' total tax take at war's end.

The CCH report shows the following increases, 1951 over 1946: Gasoline 87%; Income 80%; Motor Vehicles 98%; Sales and Use 115%; Tobacco 110%.



School Daze!

Just because that bathing suit is proper at the beach, she shouldn't assume it's proper for the classroom, too!

And just because one bearing is best lubricated by one particular grade of oil, you shouldn't assume that the same oil is best for *all* bearings on that machine. In many cases it isn't.

OIL CUPS permit you to lubricate each bearing with the oil best suited to that bearing—thus prolonging bearing life, reducing maintenance costs, cutting down-time, boosting production. And oil cups fortunately *cost very little.*

Gits oil cups have been the standard for industry for more than 40 years. Gits Bros. has the largest selection of oil cups available anywhere. Call on Gits Bros. for a prompt, efficient solution to your lubrication problems.

Write for free Catalog No. 60-A

GITS BROS. MFG. CO.

1865 S Kilbourn Ave. • Chicago 23, Illinois

The Economic Situation Today and Tomorrow

(*Continued from page 73*)

have been built up to what it is." I would like to suggest that that statement is only half correct—and not in the sense he meant it. If he means that the United Steel Workers would not have gone to the limit of a strike to enforce their demand for a very large wage and fringe adjustment if the steel business had been in a process of curtailing operations, he is probably right. On the other hand, I suspect that it is just because steel management saw production catching up with prospective market demand and a distinct possibility of price competition, lower profits, and some excess capacity in the near future that they were so determined not to commit themselves in perpetuity to this higher level of costs.

Businessmen under present circumstances may be expected to gripe about "profitless prosperity," just as everyone gripes about the weather or the food on the boarding-house table. But unless both parties "roll with the punch" and make mutual concessions under which jobs can be maintained, we stand a very grave prospect that local spots of unemployment will snowball and spread contagiously into general recession.

This possibility—which we cannot afford to ignore—if we are to take steps to combat it—raises one final question. Do we know how to stem a recession once it really gets under way and then institute recovery measures? There are a good many economists, lay and professional, who cherish the thought that we can do so through vigorous use of fiscal and monetary policies now understood. Personally, I think the effectiveness of monetary policy is largely as a restraint on booms rather than as a business stimulant in time of depression. Credit easing at such times is "pushing on a string." Likewise, fiscal policy as a cure for recession, has lost much of its potency by not being used to curb inflation or reduce the public debt during a long boom period. Hence, I come back to my basic proposition, that voluntary acceptance of price and wage relationships that enable business to go on even when neither party is wholly happy about the terms of trade, is the ultimate remedy for recession, just as it would have been the best preventive.

BUYER'S & SELLER'S MART

Contract Work • Equipment For Sale • Employment and Business Opportunities

RATES

Undisplayed (set solid) ..... 90¢ line
Positions Wanted ..... 45¢ line
Displayed ..... $8.50 inch

REQUIREMENTS

Undisplayed (want-ad style), minimum charge 4 lines, prepaid. Figure forty-four letter spaces (five average words) to a line. Add one line for box number address; replies forwarded without charge.
Discount of 10% for twelve consecutive displayed insertions. Forms close 15th of month preceding date of publication.

Send orders to: CLASSIFIED DEPARTMENT • PURCHASING • 205 East 42nd Street, New York 17, New York

CONVEYORS

10 Pcs. Alvey-Ferguson 18" conveyor 10 ft. long 1.9" rollers 3" centers, 4" channel frame. 8 Pcs. Alvey-Ferguson 18" conveyor 10 ft. long 1.9" rollers 3" centers, 4" channel frame.

FLYNN AND EMRICH COMPANY
Grantley Rd. & W. Md. R.R.
Baltimore 15, Maryland.

ATTENTION PURCHASING AGENTS & ENGINEERS

10,000,000 Standard 5/8" Flat Washers to be sold under market price or will punch to your specifications any disc or special washers MAX OD 1¾" from 10 Ga. 1010 Steel in lots of 100,000. Quotation on Request.

C. HAGER & SONS HINGE MFG. CO.
St. Louis 4, Mo.

BRIDGE CRANES

ARNOLD HUGHES COMPANY
765 Penobscot Bldg. Detroit, Mich.
WOodward 1-1894

ABRASIVES WANTED

Rolls, Sheets, Wet-or-Dry Belts, Rotary Files, Grinding Wheels, etc.
Cash in on your surplus. Write:

K & K SALES
525 W. 76th St. Chicago 20, Ill.
Phone: RAdcliffe 3-1818

POSITIONS WANTED

EXECUTIVE PURCHASING AGENT: Successful background—12 yrs. Mfg. experience—Contracts, Inventories, Production, Managing, Administration, etc. Young, aggressive. Immediately available—Member NAPA. Write Box #1344, PURCHASING, 205 E. 42 St., New York, N. Y.

PURCHASING AGENT OR ASSISTANT AVAILABLE. 5 years experience in light industry specializing in factory equipment and supplies. Sub-contracting of all type machine work. Buying at rate of $150,000 per month. Aggressive and ambitious. College graduate. 30 years old. Prefer East or South. Box 1343, PURCHASING 205 East 42nd St., New York 17, New York.

PURCHASING AGENT—Present Navy Contracting Officer, skilled negotiator, with 8 years purchasing experience including all phases industrial purchasing for single and multi-plant operations. Plus 3 years supervisory experience general supply, stock control, storage, issue, etc. College degree. Desires position as Purchasing Agent medium sized company or at supervisory level large company. For resume contact Box 1341, PURCHASING, 205 East 42nd St., New York 17, New York.

FOR SALE

One only Lincoln-Schlueter Auto scrubber, twin disc brush, 30" spread, automatic suction pickup, 110 volt, 60 cycle, AC, 1 phase.

Two Invincible Sweepers, model UP, 110 volt, 1 phase, ¾ HP, 60 cycle, AC-DC.
One Invincible Sweeper, model 460, 1½ HP, 60 cycle, 1 phase, AC-DC.
These sweepers do not have hose or tools.

One American Woodworking Machine Company Round Head 12" Jointer, 3 HP, 220 volt, 60 cycle, 3 phase, with 4½" flat leather belt & sheaves.

All above machines in excellent condition. For further information write J. F. Vanni, Purchasing Agent, The M. O'Neil Company, 226 South Main Street, Akron 8, Ohio.

WANTED
BRIDGE CRANES
ARNOLD HUGHES COMPANY
765 Penobscot Bldg. Detroit, Mich.
WOodward 1-1894

COMPLETE SPECTROCHEMICAL LABORATORY FOR SALE

Includes 2-meter grating Spectrograph (film), projection densitometer, arc, spark and absorption source units, developing equipment, plotting table, etc. Top condition. Available for inspection. Box 1342, PURCHASING, 205 E. 42nd St., New York 17, New York.

Take a Sales Tip from these Men of Decision . . .



"Qualified sales representatives, calling on us regularly, play a vital part in our daily planning and buying. To be most effective, theirs is a continuing service, during both the good and not-so-good buying times. As a part of our purchasing policy, we see to it that the informed salesmen's wealth of knowledge regarding their products is passed along to all key men in our organization, where it will help our company and theirs," says W. L. Young, Purchasing Agent, Micro Switch Div., Minneapolis-Honeywell Regulator Co., Freeport, Ill.



"Though purchasing agents may sometimes seem to take jobbers' salesmen for granted, this is not actually the case. We appreciate the fact that their frequent calls put them in close touch with our problems, and their broad product lines give them a correspondingly broad business outlook. The salesmen I like to deal with are those who put these two factors together, thinking in terms of our company's needs," says F. J. Hines, Purchasing Agent, Gillette Safety Razor Co., Boston, Mass.



"The salesman who is successful in selling to me asks himself before his visit, 'How can I best serve this company?' He has ideas to help us trim our costs and improve our product. He knows what his own products will do, and doesn't hesitate to tell me about equipment his own firm doesn't produce. His knowledge of methods employed by other industries often proves valuable to us. He is, for all practical purposes, my trustworthy, efficient assistant," says C. J. Koelsch, Director of Purchasing, Fruehauf Trailer Co., Detroit, Mich.

How can costs be cut and products improved? 38,500 readers of PURCHASING constantly meet this problem

Today's P.A. does more than just buy required raw materials and supplies. On the management team, he gathers information on new products . . . counsels on market conditions and costs . . . advises on supply situations – today and tomorrow.

To accomplish all this the P.A. needs information. He relies on both your salesmen *and* your advertising to supply a good share of it. Make certain your advertising reaches him. Use the one national magazine written for all industrial P.A.'s and read by 38,500 of them – PURCHASING – *a basic magazine on any industrial advertising schedule!* PURCHASING, 205 East 42nd Street, New York 17, N. Y. Offices in Chicago, Cleveland, Dallas, Atlanta, Los Angeles.

When you think of selling...think of PURCHASING

ABC NBF



A basic magazine on any industrial advertising schedule!

No Real Shortage of Copper

(*Continued from page 97*)

senting so many days, weeks, or months of consumption. When this supply above ground was at its lowest, the market would always be high, and when the supply above ground was the largest, the price would always be low. In appraising the future, a few buyers took into consideration the amount of copper in the hidden inventories in the hands of both users and consumers —the high market and heavy commitments converted the stocks above ground into inventories and created an apparent shortage. The reverse was true when prices were low—inventories were also low, and while the supply above ground seemed high, all the working stocks of the country were at a minimum, accentuating the visible surplus.

3. Both zinc and lead, which were officially considered "critical" only a few month ago, are now in free supply and selling below ceiling prices. The minute the world price receded to the American ceiling, lead became in free supply, and today, only a short time later, there is an excess of supply over demand.

I do not reacall any time when the principal non-ferrous metals moved divergently, price-wise—not that they all moved simultaneously or in the same amount, but I do not recall when two moved down while one moved up, or *vice versa,* in any combination. To me it is only a matter of time (and the date is delayed by price and allocation controls) when the copper supply will balance demand, and that time, in my opinion, will come before all the expected increased supplies are available. The statement that copper would be in short supply for a 10-year period, made not so long ago, seems to me completely unrealistic, if not irresponsible.

My guess is that the future "normal" price of copper, which we used to call between 10¢ and 13¢, will settle in the 19¢ to 24¢ area in the post-war, post-emergency, post-planning period. These are, of course, the cents in today's depreciated dollar. However, this does not mean that it will not fluctuate above and below these limits for the reasons I have already mentioned.

While accumulations below 19¢ might be profitable, and accumulations above 24¢ would tend to be dangerous, I want to give you a formula for insuring that the cost of copper in your products at the time of shipment will most accurately represent the market price at that time. This formula will, in the long run, result in the most advantageous average price that you can obtain. It is very simple:

Avoid trying to outguess the market. Shun speculation. At all times, but only for requirements.

1 1 1

TWENTY-THREE PATENTS RELEASED FOR PUBLIC USE BY THE UNITED STATES ATOMIC ENERGY COMMISSION

Descriptions of 23 patents owned by the U. S. Government and held by the Atomic Energy Commission have been transmitted to the U. S. Patent Office for registry and listing in the official register of patents.

The Commission will grant non-exclusive, royalty-free licenses on the patents, as part of its program to make non-secret technological information available for use by industry. Commission-held patents and patent applications released for licensing now total 395.

Applicants for licenses should apply to the Chief, Patent Branch, Office of the General Counsel, U. S. Atomic Energy Commission, Washington 25, D. C. Copies of these patents may be obtained from the U. S. Patent Office.



DEFENSE INDUSTRIES
SPEED PRODUCTION and CUT COSTS
with Institute Labeled Wipers

As during previous emergencies, many manufacturers of war goods as well as civilian materials are now showing a preference for Institute Wipers. Orders in ever increasing volume are being placed for Industrial Wiping Cloths in bales and cartons bearing the Sanitary Institute label. And this again proves that scientifically processed INSTITUTE WIPERS offer more for the money. They boast features not found in ordinary wipers, among them:

- **Supplied in a variety of sizes and grades to fit the individual needs of every division in the plant.**
- **Completely sanitary and thoroughly clean.**
- **Very durable . . . highly absorbent . . . treated to retain their absorbency for a longer period.**

Consult your nearest Institute member TODAY regarding your wiper needs, and let him prove how he can *speed production and cut costs for you!*

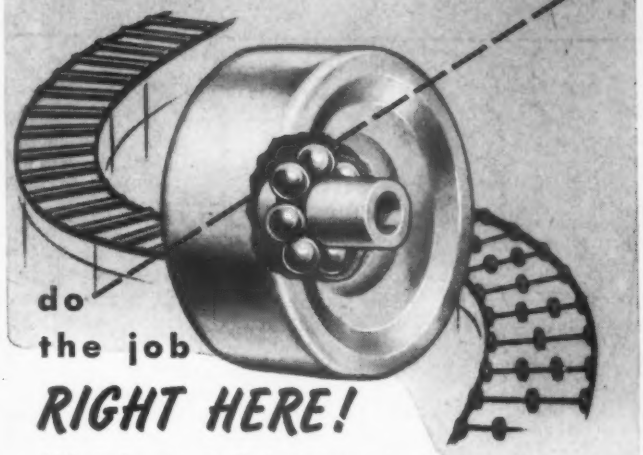
The Sanitary Institute of America has a membership of over one hundred leading industrial wiping cloth processors in twenty-seven States and Canada. This advertisement is sponsored by the members listed here.

For prices and samples, write any member. For Institute specifications, write any member or The Sanitary Institute of America, 105 West Monroe Street, Chicago 3, Illinois

AKRON, OHIO:
Akron Cotton Products Co., Inc.
406 S. High St. (11)
ASHEVILLE, N. C.:
Ness Sanitary Wiping Cloth Co.
P. O. Box 1267
ATLANTA, GA.:
Rittenbaum Bros.
691-701 Houston St., N. E.
CHICAGO, ILL.:
American Sanitary Rag Co.
336 W. 37th St. (9)
Burcott Mills
309 N. Desplaines St. (6)
COLUMBUS, OHIO:
Rose Wiping Cloths
1974 S. 4th St. (7)
DETROIT, MICH.:
Wolf Sanitary Wiping Cloth Co.
515 Wanda St. (20)
DULUTH, MINN.:
Northwestern Wiping Cloth Co.
438 S. Lake Ave. (2)
KANSAS CITY, MO.:
Purity Textiles Co. of Kansas City
4010 E. 31st St. (2)
MEDFORD, MASS.:
Mystic Waste Co.
30 Ship Ave. (55)
NEW ORLEANS, LA.:
Rosen Sanitary Wiping Cloth Co., Inc.
859 S. Front St. (10)
NEW YORK, N. Y.:
Sterilized Wiping Cloth, Inc.
1281 Viele Ave. (59)
OMAHA, NEB.:
Peerless Wiping Cloth Co.
6th & Pacific Sts. (8)
PHILADELPHIA, PA.:
The J. Milton Hagy Waste Works
4946-50 Parkside Ave. (31)
PITTSBURGH, PA.:
Armstrong Sanitary Wipers Co.
1233 Spring Garden Ave., N.S. (12)
Scheinman-Neaman Co.
1024 Vickroy St. (19)
TROY, N. Y.:
Troy Sanitary Wiping Cloth Co.
P. O. Box 222

THE SANITARY INSTITUTE of AMERICA

ABBOTT BALLS



do the job
RIGHT HERE!

Abbott Bearing Balls built into wheel and roller type conveyors keep essential military and industrial materials rolling smoothly and quickly.

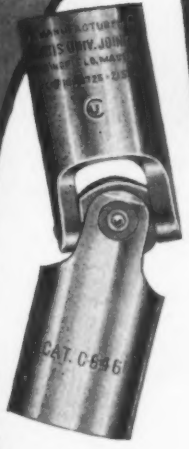
Every Abbott Ball — DEEP HARDENED with a mirrorlike, glass hard finish — is shock resistant and performs efficiently under high load factors. Use Abbott . . . *the all round ball.*

Write for Abbott Catalog-Manual today.

ABBOTT

THE ABBOTT BALL COMPANY
15 Railroad Place, Hartford 10, Conn.

Your Best Buy



CURTIS
Exclusively a manufacturer of
UNIVERSAL JOINTS

Specify Curtis Universal Joints if you want fast delivery and efficient service.

- Single or Double
- Solid Centered, or Bored
- Standard for Heavy Duty
- Lo-Friction for special duty
- Assured Quality — Curtis exceeds Class I standards for the Army, Navy and Air Force
- Few Parts — mean easy assembly and disassembly
- Made of alloy steels, each part specially heat treated—for long life
- 14 sizes — ⅜" to 4" O.D. — always in stock (up to 6" O.D. to order if required)
- Facilities and engineering skill immediately available for special application requirements

Write today for engineering data and price list

CURTIS UNIVERSAL JOINT CO., INC.
15 Birnie Ave., Springfield, Mass.
As near to you as your telephone

the only Universal Joint with the



"Telltale" 9 Lock Ring (patented)

A MANUFACTURER OF UNIVERSAL JOINTS SINCE 1919

STOP
galvanic corrosion
with Alcoa
Fasteners



Alcoa Aluminum Fasteners will not corrode your aluminum assemblies. No plating to wear away . . . these fasteners are solid aluminum all the way through. A complete selection of quality, yet economical, nuts, screws, bolts, washers, rivets and cotter pins.

ALUMINUM COMPANY OF AMERICA
1927-G Gulf Building
Pittsburgh 19, Pa.

ALCOA

Fasten Aluminum with
Alcoa Aluminum Fasteners

NOW 6:30 P. M. EDST every Sunday—"SEE IT NOW" with Edward R. Murrow . . . brings the world to your armchair . . . CBS Television

LETTERS . . .

INTERNATIONAL DEPARTMENT

Je suis informe par une revue d' Aheteurs francais de la possibilite de vous acheter certaines publications. Je vous serais tre oblige de bien voulor me faire parvenir des que vous le pourrez, "The Purchasing Department Reports to Management" par E. M. Krech, et "Better Buying, Better Selling" par J. E. Coleman. Je pense que le mode de paiement contre remboursement, vous vous agreera. Dans l'attente du plaisir de vous lire, je vous prie d'agreer, Monsieur, mes distinguees samutations.

Chaix P.
Establissements Coquillard
Froges, Isere, France

EXECUTIVE TESTIMONY

We should like to obtain about 50 reprints of pages 103-110 inclusive, of the May 1952 issue of PURCHASING—the section entitled "Purchasing, Partner in Modern Management."

L. J. Finnan, Jr., Dir. of Pur.
Hercules Powder Company
Wilmington, Delaware

● Reprints sent. An additional supply of this section, containing comments on purchasing by leading industrialists (including Hercules' President Charles A. Higgins) is available for distribution, and copies will be furnished upon request, without charge, as long as the supply lasts.—Ed.

THIRD EDITION

In the February 1951 issue of *The Advertiser's Digest* we presented a condensation of "What Happens to Your Order" by Walter A. Kurnik, from your September 1950 issue. We received so many favorable comments from our readers, we decided to run it again—this time in the April 1952 *Sales Story*.

S. A. Waterman, Editor
Publishers Digest, Inc.
Chicago, Ill.

● Despite Knox Sprung's assertion in the April guest editorial, that "Constructive Thoughts Are Worth Repeating", we have never followed the editorial policy of repeating articles, however meritorious they might be. However, we are delighted at this recognition of Mr. Kurnik's excellent article and are glad to see it used "again and again and again" for the edification of the marketing fraternity. By the way, that April issue of *Sales Story* also carried a condensation of Pete Wight's "Selling—With Nothing to Sell" from the December 1951 issue of PURCHASING and Lee O'Leary's comment on salesmanship from our current advertising series. Seems that salesmen are listening to the voice of purchasing these days.

WHY CENTRALIZE PURCHASING?

At the present time, our purchasing is being handled by various operating officers at our Main Office, and managers of each of our ten branches (to some extent), as well as myself. We are toying with the idea of a centralized purchasing department at the Main Office under the supervision of one man.

My problem is to convince management of the need of such a department by showing the efficiencies and other advantages of it. Nine of our ten branches are within 15 miles of the city, the tenth one being 35 miles away, so that distribution would not be a problem.

Any thoughts that you might have regarding the advantages of a centralized purchasing department would be greatly appreciated.

W. C. Bryant, Pur. Agt.
Nat. Commercial Bank & Trust Co.
Albany, N. Y.

● The article "Why Centralize Purchasing?" (February 1949 issue) was written in response to a similar inquiry received at that time. It sets forth the principal factors in the case for centralized buying, and has been widely used in connection with similar problems.—Ed.

STEEL WAREHOUSES

Please advise if you have lists of steel warehouses located in the states of New York, Ohio, and Illinois, or where we might secure such a list.

J. C. Hiscott, Pur. Agt.
Foster Wheeler Limited
St. Catherines, Ontario

● Write to American Steel Warehouse Association, 442 Terminal Tower, Cleveland, Ohio. This organization has 708 warehouse members in 45 states. Its members handle 90% of the industrial steel products sold through warehouse distributors in this country.—Ed.

ADDRESS CORRECTION

It has come to our attention that in your March issue you announced that Olin Industries, Inc., had established advance research and development laboratories at Pisgah Forest, N. C., to evolve new and improved cellophane, polyethylene, and other packaging films. For the benefit of your readers you might want to correct this statement to point out that the new laboratories are at New Haven, Conn. It is the cellophane plant itself which is located at Pisgah Forest.

Gene R. Casey
Steve Hannagan, Pub. Rel.
New York, N. Y.

YOU'RE WELCOME

Just a few lines to express my thanks for your letter outlining in complete detail the subcontract and purchasing functions. It is exactly what I wanted. Your cooperation is very much appreciated.

Walton Klages, Pur. Agt.
Norden Instruments, Inc.
Milford, Conn.

PURCHASE MANUALS

Can you supply us with the names of companies which have prepared and are using purchasing department manuals?

C. E. Giner, Technical Div.
Nat. Office Management Assn.
Philadelphia, Pa.

● The use of purchasing department manuals is rapidly increasing, and is becoming fairly general among departments of any considerable size. We have made no attempt to maintain a comprehensive list of companies where this practice is observed. However, the following representative examples have all been described in past issues of PURCHASING:

Aluminum Company of America
American Tobacco Company
Bigelow-Sanford Carpet Company
Foxboro Company
The Detroit Edison Company
J. M. Huber Corp.
International Resistance Co.
McCulloch Motors Corp.
RCA Victor Div., Radio Corp. of America
Rheem Manufacturing Co.
Rockwell Manufacturing Co.